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# ANNUAL REPORT
OF THE
# ALASKAN ENGINEERING COMMISSION

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## MESSAGE FROM THE PRESIDENT OF THE UNITED STATES

TRANSMITTING

A COMMUNICATION FROM THE SECRETARY OF THE INTERIOR SUBMITTING THE ANNUAL REPORT OF THE ALASKAN ENGINEERING COMMISSION FOR THE YEAR ENDED DECEMBER 31, 1916

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1917

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# MESSAGE OF TRANSMITTAL.

*To the Senate and House of Representatives:*

I transmit herewith for the information of the Congress the annual report of the Alaskan Engineering Commission for the year ending December 31, 1916.

WOODROW WILSON.

THE WHITE HOUSE, *March 2, 1917.*

# LETTERS OF SUBMITTAL.

---

THE SECRETARY OF THE INTERIOR,
*Washington.*

MY DEAR MR. PRESIDENT: There is transmitted herewith the report of the Alaskan Engineering Commission for the year ended December 31, 1916.

Cordially, yours,

FRANKLIN K. LANE.

The PRESIDENT,
*The White House.*

---

ALASKAN ENGINEERING COMMISSION,
*Washington, D. C., February 28, 1917.*

SIR: I have the honor to submit the report of the work accomplished under the direction of the Alaskan Engineering Commission during the year ended December 31, 1916.

Cordially, yours,

WM. C. EDES, *Chairman.*

Hon. FRANKLIN K. LANE,
*The Secretary of the Interior.*

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# REPORT OF ALASKAN ENGINEERING COMMISSION, 1916.

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## SUMMARY OF CONSTRUCTION WORK ACCOMPLISHED DURING 1916.

The end of the year 1916 sees quite a notable advance in the construction of the Government railroad in Alaska notwithstanding many obstacles that have had to be surmounted. Practically all of the materials used in the railroad construction have to be brought from outside of the Territory. Ocean freight rates are advanced greatly over those prevailing in 1915, and, as elsewhere, vessels were very scarce. The stevedore strike on the Pacific coast added to the difficulties of the situation. During the early part of the season, especially, considerable delay was caused by the nondelivery of materials and equipment. Prices of all materials advanced sharply. The commission had fortunately placed orders for about 160 miles of steel rails early in the season, thus saving the advance of $10 per ton that was added later.

During the early months of the year some labor disturbances took place at Anchorage. These were settled by a board of conciliation sent from the Department of Labor. There have been no labor troubles since. An advance of from 20 to 25 per cent was granted to the various classes of labor. This advance in wages and supplies has naturally been reflected in the prices paid to station men, and the unit prices for doing the various classes of work were correspondingly increased.

The commission early realized that owing to the large amounts of construction material and supplies that had to be landed at Anchorage during the active season, the lighterage facilities would have to be largely increased. The growth of the town and the large amount of commercial freight that the commission's lighterage plant has to handle for the merchants added to this necessity. A steam tug, several gasoline boats, and a number of barges were added to the equipment, and there can now be handled with dispatch anything that comes.

The season of 1916 was rather unusually wet, the rains starting early in the fall and continuing with but little intermission, thus necessitating the postponement of some track laying which the commission had hoped to do. As a partial offset to this the mild weather continued rather later than usual and the "freeze up" was postponed.

Labor has been plentiful during most of the season, and it was not necessary until September to import any men from the States. In order to finish some necessary work before the "freeze up," about 300 men were brought in from Seattle at that time.

During the year ending December 31, 1916, there were laid 60 miles of main line track; 100 miles were graded, and the right of way was cleared for 230 miles. Many buildings were constructed at Anchorage, and at Nenana on the Fairbanks division. While the work carried on from the Anchorage base has been much the most extensive, considerable progress has been made toward rehabilitating the Alaska Northern Railway and an excellent start has been made at the northerly end of the line from Fairbanks south.

A more detailed description of the work accomplished will be found in the reports from the several divisions. Large amounts of material, equipment, and supplies have been brought in and are being distributed ahead over the uncompleted work. The commission feels that it is now in a much better position than ever before to push the work vigorously.

## RÉSUMÉ OF THE WORK ACCOMPLISHED IN THE ANCHORAGE DIVISION.

[Period Jan. 1, 1916, to Dec. 31, 1916.]

By reference to pages 185 to 191, inclusive, of the commission's report of December 31, 1915 (Pub. Doc. No. 610, 64th Cong., 1st sess.), the status of construction work in the Anchorage division at the close of the year 1915 can be ascertained. It will be seen that a town named "Anchorage" had been established at the head of navigation on Cook Inlet for the accommodation of the people and the commission's employees; that about 34 miles of roadbed had been graded on the railroad line leading from Anchorage toward the coal fields; and that about 13 miles of track had been laid from Anchorage to Eagle River. In addition to the work accomplished, large quantities of construction materials and supplies had been assembled ready for the 1916 season.

### FORCES EMPLOYED ON ANCHORAGE DIVISION.

The average number of commission employees, station men, and station-men laborers at work on the Anchorage division during 1916 is set forth below:

| Month. | Commission employees. | Station men. | Station-men laborers. | Total. |
|---|---|---|---|---|
| January | 325 | 15 | 15 | 355 |
| February | 375 | 25 | 20 | 420 |
| March | 550 | 150 | 25 | 725 |
| April | 850 | 300 | 85 | 1,235 |
| May | 1,393 | 472 | 138 | 2,003 |
| June | 1,463 | 711 | 269 | 2,443 |
| July | 1,703 | 943 | 156 | 2,802 |
| August | 1,897 | 1,377 | 169 | 3,443 |
| September | 2,083 | 1,288 | 211 | 3,582 |
| October | 2,281 | 916 | 149 | 3,346 |
| November | 1,776 | 518 | 95 | 2,389 |
| December | 1,147 | 753 | 74 | 1,974 |

## TRACKLAYING AND BRIDGE BUILDING DURING THE WINTER SEASON ALONG THE COMPLETED GRADE NORTH OF ANCHORAGE.

Eagle River, located 13 miles north of Anchorage, is crossed by a long wooden bridge with a 60-foot truss span across the main river channel. The erection of this bridge consumed two or three months' time after track had reached the bridge site. As soon as the structure was complete, track gangs started laying steel from Eagle River Bridge toward Peters Creek, at which point the railroad line comes very close to the east shore of Knik Arm, both as to location and grade elevation. It was the plan of the commission to extend the track to Peters Creek and to use this point as a shipping base for all construction materials and supplies needed for the Matanuska branch line. Accordingly, as soon as trains were running to Peters Creek (about Feb. 1) large quantities of supplies were shipped out to that point by rail. These supplies were moved by bobsleds from the Peters Creek base over the level bottom lands along the east shore of Knik Arm to the Matanuska River, thence over the ice to various points along the branch line leading toward the coal fields. This branch line turned off from the main line at a point about 2 miles beyond the Matanuska River and 36 miles from Anchorage, and extended 38 miles to Chickaloon, in the heart of the Matanuska coal fields. Materials and supplies in large quantities were distributed along the branch line for a distance of 18 miles. Winter camps were constructed at the usual intervals with substantial warehouses for the accommodation of perishable supplies, and by the middle of February station gangs were at work on the Matanuska branch line clearing right of way preparatory to grading. In the month of March several station gangs started grading in the various rock cuts along the line. The transportation facilities afforded by the ice of the river and by the snow roads over the frozen swamp lands made it very easy for these station gangs to move into this new construction district with materials and supplies.

## CHANGE OF LINE SOUTH OF ANCHORAGE.

The size, rapid growth, and general importance of the town of Anchorage made it apparent early in the year that it would be desirable to put the main line of the railroad through the town, instead of passing 4 miles to the eastward as originally surveyed, if satisfactory grades and alignment could be secured over the new route. No work had been done on the old line. Accordingly, survey parties were put into the field early in the year to survey a route from a point near Turnagain Arm to Anchorage. The engineers succeeded in securing a very good line, which approached Anchorage from the south along the east shores of Knik Arm. The new line swings around the town on a low grade elevation, through the wholesale district and crosses Ship Creek immediately at the west end of the freight yards, connecting with the line formerly known as the Ship Creek spur. The so-called Ship Creek spur line which had been built the previous season was utilized and became a part of the new main line.

## CLEARING RIGHT OF WAY ON MAIN LINE.

In the month of March several station gangs were given clearing contracts on the newly adopted main line south of Anchorage and on the main line north of Matanuska Junction leading toward the Susitna Valley. It was desirable to have this right of way cleared of all timber and undergrowth as early as possible in order that the spring sun could melt the snow at the earliest possible date. Under this plan, right of way was cleared and the line made ready for grading for a distance of 10 miles south of Anchorage and for a distance of 10 miles north of Matanuska Junction, early in the year.

## PLANS FOR CARRYING ON CONSTRUCTION WORK DURING ACTIVE PART OF 1916 SEASON.

It was decided to divide the work in the Anchorage division into four construction districts as follows:

### THE MATANUSKA DISTRICT.

This district was established to include all construction work on the Matanuska branch line leading from the main line at Matanuska to the coal fields, a distance of 38 miles. This district also included all construction work on the main line north of Matanuska, extending from Matanuska Junction (mile 151) to Sheep Creek (mile 203). The headquarters of the Matanuska district were located at Matanuska with District Engineer K. K. Kuney in charge, who, on account of illness, was later replaced by District Engineer C. R. Breck.

### THE TURNAGAIN ARM DISTRICT.

The Turnagain Arm district was laid out to include all that portion of the main line south of Anchorage to and including Girdwood, that is, from mile 115 (Anchorage) to mile 75 (Girdwood). This district included the light work for the first 15 miles immediately south of Anchorage, and the very heavy rock work along the eastern shores of Turnagain Arm. The district was put in charge of District Engineer F. A. Hansen, who first established his headquarters at Anchorage (mile 115) and later moved them to Potter Creek (mile 101), a point served by water transportation via Turnagain Arm.

### THE TALKEETNA DISTRICT.

The Talkeetna district was established to include that portion of the line along the Susitna River extending from mile 203 at Sheep Creek to mile 262 opposite Indian River. The district was placed in charge of District Engineer H. F. Dose, who opened his office and construction headquarters at Talkeetna (mile 225), a construction camp located at the confluence of the Talkeetna and Susitna Rivers.

### THE TERMINAL DISTRICT.

In addition to the above-mentioned construction districts, covering new territory, a terminal district was organized to include the aperation and maintenance of the completed railroad line at Anchoroge and the construction of the permanent terminal facilities at Anchorage, said work being in charge of Mr. H. P. Warren, engineer of maintenance of way.

### GENERAL STOREKEEPERS' DEPARTMENT.

A general storekeepers' department was also organized in the early part of 1916, and the office placed in charge of Mr. Walter De Long. This department took over all matters pertaining to materials and supplies, and, in addition, assumed control of the receiving and forwarding agency which handled ocean freight shipments. The general storekeepers' department also operated all water transportation in the delivery of supplies to the Turnagain Arm district and the Talkeetna district.

## PROGRESS OF WORK IN THE SEVERAL CONSTRUCTION DISTRICTS OF THE ANCHORAGE DIVISION.

### THE MATANUSKA DISTRICT.

At the beginning of 1916 the available funds for the prosecution of construction work were insufficient to meet all demands and it was accordingly decided to confine construction work to the branch line leading to the coal fields.

Early in the spring the first 14 miles of the Matanuska branch line between Matanuska Junction and Moose Creek was entirely covered with station gangs, and by the month of July the roadbed was graded to Moose Creek and made ready for track. Standard track reached Moose Creek in the month of July and furnished a means of transportation for coal which had been mined in that vicinity during the winter. At the same time construction crews were pushed ahead beyond Moose Creek to Kings River, a point 24 miles north of Matanuska Junction, and by the end of the summer the roadbed had been completely graded over this distance. During October and November steel was laid from Moose Creek to Kings River, and road gangs and clearing gangs were pushed ahead beyond Kings River to attack the remaining 14-mile section of line between that point and Chickaloon.

About the 1st of July, when money was available for the purpose, construction crews were put at work on the main line north of Matanuska Junction, and early in the summer the entire line north of the Junction for a distance of 8 miles (mile 151 to mile 159) was completely covered with station gangs. A locating party was put into the field in the month of June to seek out a new route through the Susitna Valley, starting at the Knik Wagon Road (mile 159), and early in the summer they had met with such success that it was decided to adopt the new route instead of the old location. Accordingly, the district engineer was able to push clearing gangs and grading gangs to the westward beyond the Knik Wagon Road, and by the end of the year all grading had been practically completed on the main line from Matanuska Junction (mile 151) to Little Susitna River (mile 174), and the right of way had been cleared for 13 miles beyond to a point a little south of Willow Creek (mile 187). The first 8 miles immediately west of Matanuska Junction was ready for track early in November, but the very heavy rains which prevailed in that district during the 1916 season made it inadvisable to lay this track. This situation leaves the work in an excellent condition for the coming year, as tracklaying can commence early in the 1917 season and go steadily ahead over the completed grade.

### THE TURNAGAIN ARM DISTRICT.

Grading commenced in the Turnagain Arm district in the month of May. The activities were first centered on the section of line immediately south of Anchorage, and this section for a distance of 10 miles was completely covered with station men and bridge crews. The work was pressed on this section of line during the summer and in the early fall the grade was made ready for the track, which was laid southward from Anchorage for a distance of 10½ miles. While this work was in progress materials and supplies were shipped around by water, past Fire Island, and into Turnagain Arm. By this means the necessary construction supplies were distributed at various camps along the arm as far south as Rainbow Creek (mile 94). The Alaska Northern Railway Co. in their early operations had built several construction camps in this district, and the Alaskan Engineering Commission remodeled and rebuilt all of these camps for their own purposes. A substantial dock was built at Rainbow Creek (mile 94) and substantial warehouses were constructed at both Potter Creek and Rainbow Creek. The supplies for this work were loaded on large barges at Anchorage and conveyed to these various camps along Turnagain Arm by steam tugs, and by the end of the open summer season supplies had been landed at the various camps to enable rock work to continue throughout the winter. At the same time a large camp was constructed at Potter Creek, which point was selected as the headquarters for the district engineer and his clerical and construction assistants. He moved his office and residence to that point in the month of November, so as to be close to the heavy work which lies between Potter Creek and Girdwood, and this section of the line will be handled and completed from this new camp.

### THE TALKEETNA DISTRICT.

The adopted location for the new railroad closely follows the Susitna River for a distance of 75 miles, and advantage was taken of this situation to attack the railroad line along the upper Susitna River. While it is necessary to stretch the imagination a little to say that the Susitna River is a navigable stream, still it was found possible to operate a steam-driven stern-wheel river boat, capable of carrying a cargo of 150 tons on its own bottom, from the main construction base at Anchorage to the old Indian Village of Croto, a point about 50 miles above the mouth of the river. The commission operated the river steamer *Omineca* (which had been used for similar purposes by the Grand Trunk Pacific Railway in the construction of their line in Canada) continuously during the season, between Anchorage and Croto. The Susitna River above Croto carries less water and is cut up into numerous channels with intervening gravel bars, making navigation extremely difficult. A type of boat called a "river tunnel boat" was successfully designed for this service. These boats draw about 12 inches of water when light, and about 20 inches of water when loaded with 30 tons. Three of these boats were in use on the upper river. They carried all of the materials and supplies used during the season to the amount of 1,731 tons. They also transferred the various superintendents, civil engineers, construction men, and station gangs to the new work, to the number of 1,019 persons. The headquarters for the Talkeetna district was established at a point called Talkeetna, at the confluence of the Talkeetna and Susitna Rivers. During the season the right of way along the adopted location was cleared from Sheep Creek (mile 203) to Indian River (mile 265) and the roadbed was graded in various disconnected sections over a total distance of 22.8 miles. At the same time additional construction materials and supplies were delivered at a point on the upper river, near some heavy rock work, where they are now available for use on that section of the line. These supplies will be needed there in the early spring, before the river is open to the usual summer navigation.

## THE TERMINAL DISTRICT.

While during the season of 1916 a good camp had been established at Anchorage from which to carry on the work, there still remained a large amount of work to be done in order to properly equip this important point as a construction base. Accordingly, during the 1916 summer season a number of buildings were erected. Among the more important may be mentioned the following:

General office building.
Machine shop.
Carpenter shop.
Mechanical department warehouse.
Commissary building and warehouse.
Mess hall.
Four new bachelor's quarters.
Fourteen dwelling houses for married employees.
New hospital building.
City freight shed.
Passenger depot.
Dock for handling freight.
Oil house and dynamite magazine.
Power house.

The completed track, which was extended from Peters Creek to Matanuska Junction, was also taken over by the Terminal district and maintained and operated as a revenue-producing line. On the 1st day of January, 1916, the commission started to collect fares from all persons desiring to take advantage of the construction trains, on the basis of 6 cents per passenger mile, and during the winter and spring of 1916 a complete set of blank forms for railroad operation were prepared and used in accordance with Interstate Commerce Commission's requirements.

## TRANSPORTATION FROM SEATTLE.

It was anticipated that the activities of the Government in connection with the building of the railroad would cause a congestion of freight on the regular commercial boats during the 1916 season, unless some steps were taken to provide other means of transportation.

Commercial rates were greatly advanced over the schedule of 1915. Arrangements were made with the United States transport service of the War Department to operate the transport *Crook* in the service of the commission, for the carrying of material and supplies from Seattle to Anchorage. The *Crook* had been out of commission for several years, and quite extensive repairs were made at the expense of the Alaskan Engineering Commission. The vessel was operated by the War Department at the expense of the commission. The *Crook* was placed in service August 1 and made three trips during the season, carrying a total of 9,971 tons besides quite a number of passengers connected with the railway construction work. Notwithstanding the late start, the operation of the *Crook* was of great assistance to the work. The value of the transportation service furnished by the *Crook* based upon tariff rates in effect via commercial steamer lines was more than sufficient to meet the cost of operating the vessel, plus the cost of extensive repairs which it was necessary for the commission to incur in order to place the *Crook* in commission.

In addition to the foregoing service, the commission purchased a seagoing tug and a seagoing barge of 600 tons capacity, which were operated very successfully between Seattle and Anchorage via the inside passage; also the Navy Department placed the collier *Nanshan* at the disposal of the commission for one trip to carry a cargo of rails—Seattle to Anchorage.

Early in the year the commission contracted with the Eagle Lumber Co., of Portland, Oreg., for the delivery of about 7,000,000 feet of bridge timbers and building lumber, and this firm successfully carried out their contract during the open season by delivering this large quantity from Portland to Anchorage all by tug and seagoing barge. The space on the commercial liners did not become available to any extent for construction materials and supplies until the latter part of the season, when several shipments were made by them. In October two commercial vessels were chartered for a full cargo load—Seattle to Anchorage.

During the season of 1916 the freight tonnage passed over the Anchorage docks was as follows:

| | Tons. |
|---|---|
| Inbound: | |
| Commission freight | 52,946 |
| Commercial freight | 19,795 |
| Outbound: | |
| Commission freight | 7,272 |
| Commercial freight | 504 |
| Total tonnage handled | 80,517 |

The following tabulated statement will show, in detail, the work accomplished in the anchorage division to December 31, 1916:

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| Clearing | | | | | | acres | 2,476.37 |
| Grubbing | | | | | | do | 461.97 |
| Grading: | | | | | | | |
| Excavation— | | | | | | | |
| Prism of cut— | | | | | | | |
| Common | 862,753 | | | | | | |
| Frozen excavation | | 191,714 | | | | | |
| Loose rock | | | 415,456 | | | | |
| Solid rock | | | | 386,552 | | | |
| Borrow— | | | | | | | |
| Common | 1,018,450 | | | | | | |
| Frozen excavation | | 136,319 | | | | | |
| Loose rock | | | 235,053 | | | | |
| Solid rock | | | | 92,575 | | | |
| Total common | 1,881,203 | | | | | | |
| Total frozen excavation | | 328,033 | | | | | |
| Total loose rock | | | 650,509 | | | | |
| Total solid rock | | | | 479,127 | | | |
| Total prism of cut | | | | | 1,856,475 | | |
| Total borrow | | | | | 1,482 397 | | |
| Total excavation | | | | | | cubic yards | 3,338,872 |
| Overhaul | | | | | | | 6,247.51 |
| Trestle: | | | | | | | |
| Temporary piles | 59,629 | | | | | | |
| Lumber | | 526.4 | | | | | |
| Iron | | | 25,608 | | | | |
| Permanent piles | 188,682 | | | | | | |
| Lumber | | 3,164.4 | | | | | |
| Iron | | | 1,387,159 | | | | |
| Lumber | | 2,934.4 | | | | | |
| Hardware | | | 91,863 | | | | |

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| Culverts: | | | | | | | |
| Logs | | | | 135,612 | | | |
| Piles | 13,277 | | | | | | |
| Lumber | | 109.5 | | | | | |
| Iron | | | 35,587 | | | | |
| Total piles | 261,588 | | | | | | |
| Total lumber | | 6,734.7 | | | | | |
| Total iron and hardware | | | 1,540,217 | | | | |
| Total logs | | | | 135,612 | | | |
| Total piles | | | | | | linear feet | 261,588 |
| Total lumber | | | | | | feet b. m. | 6,734.7 |
| Total iron and hardware | | | | | | pounds | 1,540,217 |
| Total logs | | | | | | linear feet | 135,612 |
| Excavation in foundations: | | | | | | | |
| Wet | | | | | 2,903 | | |
| Dry | | | | | 23,946 | | |
| Total excavation in foundations | | | | | | cubic yards | 26,849 |
| Concrete, class "A" | | | | | | do | 1,478 |
| Rock filling | | | | | | do | 9,288 |
| Spur lines: | | | | | | | |
| Ballast | 44,188 | | | | | | |
| Ties | | 42,180 | | | | | |
| Fifty-six pound rail | | | 91,472 | | | | |
| Seventy-pound rail | | | | 75,397 | | | |
| Main line: | | | | | | | |
| Ballast | 110,320 | | | | | | |
| Ties | | 181,628 | | | | | |
| Seventy-pound rail | | | | 704,130 | | | |
| Telegraph line | | | | | 490,454 | | |
| Total ballast | 154,508 | | | | | | |
| Total ties | | 223,808 | | | | | |
| Total fifty-six pound rail | | | 91,472 | | | | |
| Total seventy-pound rail | | | | 779,527 | | | |
| Telegraph line | | | | | 490,454 | | |
| Total ballast | | | | | | cubic yards | 154,508 |
| Total ties | | | | | | | 223,808 |
| Total fifty-six pound rail | | | | | | linear feet | 91,472 |
| Total seventy-pound rail | | | | | | do | 779,527 |
| Total telegraph line | | | | | | do | 490,454 |

## ALASKA NORTHERN RAILROAD

In accordance with the agreement entered into for the purchase of the Alaska Northern Railroad, the final payment of $650,000 was made on June 30, 1916, and the United States Government came into full possession of the property. The total purchase price was $1,150,000. The road, as constructed, is a single-track standard-gauge road, extending from Seward, on Resurrection Bay, to Kern Creek, on Turnagain Arm, a total distance of 71 miles, together with about a mile of sidetracks. The building of portions of the road was expensive, involving the boring of a number of short tunnels, the making of many heavy excavations, and the erecting of a number of high trestles.

At Seward was a terminal wharf, several warehouses, and a large office building. The real estate holdings of the railroad, besides the right of way, consisted of about 10 acres along the water front of Seward and a tract of 60 acres on the outskirts of the town. There was in addition a small amount of rolling stock, much out of repair, and some construction material, such as rails, drill steel, tools, etc. Since the construction of the road it has been in operation but a short time, and for 5 years previous to its sale to the Government the only operation was the running of a gasoline motor car during the summer months over about half the length of the road. But very little maintenance work was done, and, as a consequence, the roadbed in many places suffered considerably. Of the 71 miles built, 16 miles were laid with 50-pound second-hand steel and the remainder with 65-pound new steel. Most of the latter is in very good condition and should carry all traffic for some years to come. The terminal wharf for Seward had been allowed to become dilapidated, only such repairs being made from year to year as to insure a reasonable degree of safety to the traveling public.

### REHABILITATION OF ALASKA NORTHERN.

From May, 1915, until August 25, 1915 (the date of the first payment), the road was operated by the Government under an agreement with the owners. Just enough repairs were made to permit of the operation of the gasoline car over a distance of 34 miles, this being as far as the traffic warranted. The terminal wharf was put in a fairly serviceable condition. After the first payment was made and the Government had acquired possession of the property, it was too late in the season to do much repairing. A temporary machine shop was erected, and during the winter season of 1915–16 much work was done toward putting the rolling stock in a serviceable condition. The road was kept open to mile 34 with but little interruption. On January 22, 1916, the terminal wharf caught fire and the main portion of it was destroyed. The fire occurred on an exceptionally cold and windy night, which, added to an inadequate water supply, made it impossible to save the property. The structure, however, being old and in rather poor condition, the loss was not great.

Steps were immediately taken to rebuild enough of the wharf to care for the winter's business, and this was done within 4 weeks without putting the public and the steamship companies to any inconvenience. In rebuilding the wharf native piling was used. Owing to the fact that teredos are very active in these waters and destroy native piling within a year, steps were taken to build a permanent wharf using treated piling, which lasts for a number of years. On July 18 the construction of the new wharf was started and the main body of it completed by September 6. It is considerably longer than the old structure, its dimensions being 60 by 425 feet. Two of the coastwise steamers can land at the same time.

### FORCES EMPLOYED ON ALASKA NORTHERN.

The average number of commission employees, station men, and stationmen-laborers at work on the Alaska Northern Railroad during 1916 is set forth below:

| Month. | Commission employees. | Station men. | Station men-laborers. | Total. |
|---|---|---|---|---|
| January | 156 | | | 156 |
| February | 115 | | | 115 |
| March | 150 | | | 150 |
| April | 225 | 37 | 5 | 267 |
| May | 263 | 48 | 5 | 316 |
| June | 273 | 48 | 19 | 340 |
| July | 329 | 66 | 16 | 411 |
| August | 426 | 70 | 54 | 550 |
| September | 495 | 114 | 74 | 683 |
| October | 509 | 186 | 52 | 747 |
| November | 395 | 183 | 77 | 655 |
| December | 279 | 186 | 69 | 534 |

### CLEARING RIGHT OF WAY.

For most of the distance along the line of the railroad the right of way had never been cleared for more than a few feet on either side of the track. During the season of 1916 the right of way has been cleared to a width of 100 feet for a distance of 35 miles.

### GRADING AND BALLASTING.

In the original construction of the road, in order to save expense, much curvature was introduced. Many wooden trestles were built to save the cost of embankments, and these, in many instances, were placed on sharp curves. A number of these structures are badly decayed and need renewing. A relocation of parts of the line has been made and it has been found feasible to replace a number of these structures by embankments and at the same time greatly improve the alignment. Considerable work of this nature has been done the past year and the line is vastly improved, especially between miles 7 and 12 and between miles 18 and 20. Much more remains to be done. Most of this work is being done by station men. About 12 miles of track has been raised on its original alignment, it having been built too low to allow proper drainage. During 1916 there was placed under the track 30,000 cubic yards of gravel ballast and 82,745 ties. Considerable work has been done in the terminal yard at Seward and 6,737 feet of new sidings have been laid; also a Y put in. An industrial spur has been laid following along the water front on the south boundary of the town, affording rail facilities for numerous warehouses and industries.

### BRIDGES AND TRESTLES.

A new bridge was built at Resurrection River to replace a trestle badly decayed, and which originally was built too low. This bridge consists of five pony truss spans of 56 feet each.

During the year 2,182 linear feet of trestle was built and 25,400 linear feet inspected and repaired. All superstructures were examined and found to be in a generally good condition to carry light traffic.

### STEEL.

From the south end of the Seward yard, north for 4¾ miles, the old 56-pound steel has been replaced with new 65-pound steel, obtained from the stock bought with the railroad. Enough 70-pound steel has been received and distributed to complete the line to mile 12, and about 1½ miles has been placed in the track. The remaining 4 miles of 56-pound steel will be replaced by 70-pound steel.

### ROLLING STOCK.

The rolling stock bought with the railroad, consisting of 3 engines, 3 box cars, 2 cabooses, and 17 flat cars, has been put in serviceable condition, and to it has been added 2 box cars, 6 flat cars, 2 cabooses, 10 12-yard western side-dump cars, and 2 passenger coaches.

## SPENCER GLACIER DYKE.

During the warm season the melting of Spencer Glacier causes a great amount of overflow that has spread over a distance of several miles along the railroad, washing the track out for long distances. A diversion dam of moderate length is being built to confine the water and direct it under a trestle opening in the railroad.

## TELEPHONE AND TELEGRAPH LINE.

A standard 8-foot 6-pin cross-arm telephone and telegraph line has been built from Seward to mile 51.

## BUILDINGS.

The general office building at Seward has been put in good repair and repainted, and a cement sidewalk constructed along two sides. Repairs have also been made to the warehouses.

## TRAIN SERVICE.

During the winter of 1915–16 a triweekly service was maintained to mile 34. This consisted either of the gasoline motor car or a light engine and caboose. This service was gradually extended to mile 54, to which place the line had been opened by July 24, 1916. Some time was consumed in making the track passable across the delta of Spencer Glacier, and it was not until October 2, 1916, that the first construction train was run to Kern Creek. A warehouse was constructed there and supplies were stored for the use of construction forces working a few miles north from that point. On November 16, because of several snow slides occurring ahead of that point, the operated end of track was moved back to mile 40, to which point a triweekly service has been maintained. With the opening of spring the rehabilitation of the road will be resumed with increased vigor.

## REVENUE.

The operation of the railroad and the terminal wharf has produced a small revenue, which has been used for maintenance purposes. Since May, 1915, these revenues have amounted to $50,989.17.

## FAIRBANKS DIVISION.

The development of Fairbanks and the adjacent country has been largely retarded by the extremely high cost of fuel. The fuel used is wood, the present annual consumption of which is about 100,000 cords. Great quantities are used in placer mining, where all auriferous gravels must be thawed at all seasons of the year. Wood suitable for fuel purposes is rapidly disappearing, and in some localities has reached the very high price of $16 per cord, due to the long haul. It is estimated that with cheaper fuel large areas of lower grade placers can be worked to advantage, as well as various lode mines. Along the line of the Government railroad as it follows the Nenana River are large deposits of lignite coal. To reach these from Fairbanks requires the construction of 110 miles of railroad. Notwithstanding the fact that this work would entail considerable additional cost by reason of bringing construction materials and supplies over the long route from Seattle to St. Michaels, it was determined to construct this section of the road as soon as possible and thus relieve the fuel situation. This construction will also tend to promote settlement along the line in advance of the final completion of the road through from Seward, and will hasten the completion of the through line by at least a year.

## COMMENCEMENT OF WORK.

Owing to the fact that only a small amount of money could be made available for this work before July 1, 1916, a very active start could not be made before the end of June.

However, a small party headed by F. H. Bailey, division engineer, had been sent from Seattle early in May to prepare the way. The line of survey from Seward to Fairbanks crosses the Tanana River at a point about 70 miles downstream from Fairbanks, near the old trading post of Nenana. This was decided upon as the proper location for a construction base, it being by the survey 53 miles from the coal fields and 57 miles from Fairbanks.

The pioneer party referred to arrived at Nenana May 26. A scow pile driver was borrowed from the city of Fairbanks, and on June 30 work was commenced on the construction of a dock. Owing to the nonarrival of construction outfit and material from Seattle and the local market at Fairbanks being very limited, it was only possible to keep a small crew at work. Work was also commenced on the construction of a warehouse and the erection of a camp. On June 15 wagon-road construction was started along the railroad right of way to facilitate the distribution of supplies.

During the latter part of June some few contracts were let for the clearing of the right of way of the railroad. For most of the distance the country is covered with a growth of small spruce and birch timber of varying density. In many cases the ground is also covered with a coating of moss. In order that the ground may thaw out to a sufficient depth to supply easily workable material for the railroad embankments, it is very desirable that the right of way be cleared and in many instances the moss removed from the borrow pits as far in advance of the construction of the railroad bed as possible. Especial attention has been paid to this feature of the work this season, and it has not been attempted to do a large amount of grading. As on the other portions of the work, the clearing and grading is mostly done by station men on contract. Although hampered by the late arrival of materials and supplies, a considerable amount of work has been accomplished and the organization is in good shape to push the work vigorously the coming season.

## WORK ACCOMPLISHED DURING SEASON OF 1916.

At Nenana there have been constructed a warehouse 36 by 96 feet, besides several smaller warehouses; also an office building 62 by 36 feet three stories in height, a hospital 34 by 52 feet, two stories high, 9 mess houses, bachelor quarters, a barn 32 by 117 feet, a commissary, and a number of smaller buildings, such as meat house, blacksmith shops, etc. Five cottages have been erected for the married employees, for which rental is charged.

### POWER PLANT, NENANA.

A steam-driven power plant was purchased from the Tanana Electric Co. at about 30 per cent of its original cost, and has been moved to Nenana. A very satisfactory electric-light system has been installed in the town. A fixed charge is made for street lights and a meter charge for other service.

### WATER MAINS AND SEWERS.

There have been laid 1,500 linear feet of water main and 1,100 feet of sewers.

### WAGON ROADS.

During the season 77 miles of wagon road have been constructed. Owing to soft ground, long stretches of corduroy have been required. A number of short bridges have been built.

### CLEARING.

The right of way has been cleared for a distance of 40 miles south of Nenana and for 45 miles between Nenana and Fairbanks and 13 miles more partly completed. About 51 acres have been grubbed and stripped of moss.

### GRADING.

The total amount of material moved during the season of 1916 on the Fairbanks division was as follows:

| | Cubic yards. |
|---|---|
| Common earth excavation | 89, 408 |
| Frozen earth excavation | 1, 740 |
| Loose rock excavation | 218 |
| Solid rock excavation | 3, 605 |
| Total | 94, 971 |

Scrapers have been used on certain dry sections of the work with success. A steam shovel was installed in the heavy rock cut just north of Nenana on October 28 and worked until November 24, when it was decided to shut down because of very cold weather.

### CONSTRUCTION MATERIALS AND SUPPLIES.

There were delivered at Nenana and at other points on the Fairbanks division during the season of 1916 approximately 2,500 tons of steel rail, 10,700 ties, 48,000 linear feet of piling, 3,100 cords of wood, 14,000 linear feet of logs for bridge timbers and other purposes, and 11,000 linear feet of cabin logs.

### FORCES EMPLOYED ON FAIRBANKS DIVISION.

The average number of commission employees, station men, and station men laborers at work on the Fairbanks division during 1916 is set forth in the following table:

| Month. | Commission employees. | Station men. | Station men laborers. | Total. |
|---|---|---|---|---|
| June [1] | ........ | ........ | ........ | ........ |
| July | 318 | 58 | 8 | 384 |
| August | 381 | 157 | 38 | 576 |
| September | 367 | 249 | 51 | 667 |
| October | 280 | 157 | 34 | 471 |
| November | 183 | 128 | 13 | 324 |
| December | 159 | 135 | 9 | 303 |

[1] Work performed for only part of the month. Detailed information not furnished.

## WEATHER CONDITIONS.

From May until October the weather conditions were very favorable for railroad construction. During the early part of October conditions were unfavorable for construction work on account of the heavy rains. During the second week in October hard frosts occurred and by the end of October practically all railroad construction had ceased. Ice began running in the Tanana River on October 16. Navigation for small craft was not absolutely discontinued until October 22, when the last launch left Nenana for Fairbanks. During the night of October 31 the river froze solid both in front of Nenana and Fairbanks.

The nearest observation station maintained by the United States Weather Bureau to the line of the Government railroad in Alaska is located at the town of Tanana, at the confluence of the Yukon and Tanana Rivers, 198 miles distant from Nenana, the point at which the railroad crosses the Tanana River. Climatic conditions at Tanana and Nenana are practically the same. A statement from the United States Weather Bureau showing the weather conditions at Tanana from May until November, 1916, is shown below:

*Weather for 1916, Tanana, Alaska.*

| | May. | June. | July. | Aug. | Sept. | Oct. | Nov. |
|---|---|---|---|---|---|---|---|
| Monthly mean temperature | 44.4 | 57.6 | 59.0 | 54.4 | 42.6 | 25.8 | — 2.1 |
| Daily mean maximum temperature | 54.3 | 70.8 | 73.4 | 67.3 | 52.4 | 32.2 | 5.7 |
| Daily mean minimum temperature | 34.5 | 44.3 | 44.7 | 41.4 | 32.7 | 19.3 | — 9.9 |
| Highest temperature | 72 | 89 | 83 | 84 | 66 | 48 | 34 |
| Lowest temperature | 18 | 30 | 32 | 22 | 18 | —20 | —42 |
| Monthly precipitation (inches) | 0.86 | 1.03 | 1.57 | 2.87 | 1.92 | 3.90 | 1.33 |
| Monthly snowfall (inches) | ........ | 0 | 0 | 0 | T. | 8.7 | ........ |

## LAND AND INDUSTRIAL DEPARTMENT.

The Alaskan Engineering Commission, among its other duties, was charged by the Secretary of the Interior with the management of the various town sites established along the line of the railroad and with the carrying out of the Alaskan Railroad town-site regulations. There were also many matters connected with the public lands, through which the railroad passes, requiring attention. It was, therefore, considered advisable to organize a special department to care for these features of the work and to place at its head a man having especial knowledge of all matters relating to public lands and the laws governing the same. On April 12, 1916, by the following order of the chairman, approved by the Secretary of the Interior, this department was created:

### ORDER.

By virtue of authority vested in me by the Executive order of April 10, 1915, there is hereby created a land and industrial department of this commission, which department will have entire charge, under the immediate supervision of the chairman, of the following subjects:

(1) Encouragement of the development of the natural resources tributary to the railroad by bringing about a closer cooperation between the merchants, miners, and the farmers.

(2) Dissemination of information to the public relating to the construction and operation of the railroad, and to furnish to the public reliable information on the natural resources and possibilities tributary to the railroad.

(3) All questions involving the purchase of lands and improvements thereon owned and controlled by the commission.

(4) All matters relating to real estate and land and improvements thereon owned and controlled by the commission.

(5) The withdrawal of lands of the United States for town-site and railroad purposes.

(6) The designation of land for town-site and other purposes.

(7) Cooperation with the General Land Office in the surveying of town sites.

(8) The reservation of lots and blocks within town sites for public purposes.

(9) The appraisal and sale of lots under the Alaskan Railroad town-site regulations.

(10) The management of towns after the sale of lots and all matters incidental thereto.

(11) The leasing of lands under the control of the commission.

(12) Restoration to entry of any and all lands which may have been withdrawn for town-site or railroad purposes.

(13) Creation of timber reservations and the elimination of lands from such reservations.

(14) Any changes in the public-land laws and regulations thereunder.

(15) Any changes in the town-site laws and the regulations thereunder.

(16) All legal questions involved in any of the above subjects, and such questions of law as may be referred to it by the chairman.

All matters relating to the above subjects will be referred to the land and industrial department for consideration and appropriate action, and such matters as involve major questions of policy and procedure shall receive the approval of the chairman.

The headquarters of this department will be at Seward, Alaska, and the head thereof will report directly to the chairman.

Mr. Andrew Christensen has been appointed in charge of this department, with the title of manager, and he will be obeyed and respected accordingly.

Wm. C. Edes, *Chairman.*

Approved:
Franklin K. Lane, *Secretary.*

It will be noted that one of the principal reasons for establishing this department was to encourage the settlement of the country and the development of the resources tributary to the railroad. The department is at all times ready to furnish information to prospective settlers. Arrangements have been made to keep a record of all homestead entries and locations made upon lands tributary to the railroad, so as to be in a position to advise all prospective homeseekers of the location of vacant public lands.

## DISSEMINATION OF INFORMATION.

Since the department was created considerable information in the nature of press bulletins, concerning the progress of the work on the railroad and the agricultural and commercial possibilities, have been sent to all newspapers in Alaska and to the Associated Press in the States. Many inquiries have been received seeking information along these lines and circulars of information have been distributed. The commission has arranged to publish weekly at Anchorage a paper known as the Alaskan Railroad Record, in which will be noted the progress of the railroad work and general items of interest to the people. Information has been sought from the various settlers along the railroad as to amount and variety of the farm products they expected to raise, with a view of helping them secure a local market therefor.

## AGRICULTURAL DEVELOPMENT.

### MATANUSKA AND SUSITNA VALLEYS.

There are now between 400 and 500 homesteaders in these two valleys and in the vicinity of Anchorage, most of these being newcomers to the country since 1912. The region has not been sufficiently populated to justify many of them devoting their time exclusively to agriculture, but the advent of the railroad has brought such an increase in population that there is now a demand for products much greater than the supply. In this connection it might well be mentioned that the Alaskan Engineering Commission has purchased locally about 400 tons of potatoes for the use of its construction forces. Anchorage and the various smaller towns which have been started along the line of the railroad will furnish a ready market for a large amount of vegetables.

### TANANA VALLEY.

Agricultural development in the Tanana Valley, in the vicinity of Fairbanks, is much further advanced than in other parts of Alaska. Freight rates on commodities shipped from the outside being high, the farmers find a ready market at high prices for all foodstuffs they can raise. There are approximately 75 farms under cultivation. Potatoes, cabbages, cauliflower, celery, lettuce, and other vegetables are raised in large quantities and are of most excellent quality. Many of the grains here grow to maturity. The establishment of a flour mill is contemplated in the near future. There seems to be no question but that the Tanana as well as the Matanuska and Susitna Valleys can, in the near future, successfully raise sufficient grains and vegetables to sustain a large population.

## MINERAL DEVELOPMENT.

In the Willow Creek district, situated about 30 miles north from the railroad at mile 46, much gold-quartz development has been going on for several years. There are four mines in actual operation, and all of them have had a successful year. During the past summer several new discoveries have been made. In the Cache Creek country a dredge was erected last spring and placer mining successfully conducted. It is expected that a wagon road will be constructed from these mines to Talkeetna, a point on the line of the railroad about 35 miles distant. From the region near the source of the Talkeetna River come reports of extensive copper discoveries. Encouraging reports have come from the Broad Pass country of the discoveries of gold and copper, also reports of gold-quartz discoveries near the line of the railroad about 10 miles from Fairbanks. Many valuable placer claims along the creeks in the Fairbanks mining region are simply waiting for cheaper fuel to be extensively developed. The supply of wood being largely exhausted, the advent of cheaper fuel in the form of coal from the Nenana lignite fields is anxiously looked for.

## COAL MINED FOR LOCAL CONSUMPTION AND FOR USE OF COMMISSION.

During the summer a small coal mine, located about one-half mile from the Matanuska branch of the railroad at Moose Creek, was opened and is now producing about 100 tons per day. The vein from which this coal is worked is not included in any leasing unit in the Matanuska coal field but is operated under a permit from the General Land Office. Previous to the opening of this mine the commission was paying about $16 per ton for coal from Puget Sound, delivered to Anchorage, and local people were paying from $17 to $18. Coal from the mine above mentioned is now costing the commission $6 per ton and small consumers from $8 to $10. A contract has been entered into between the commission and the mine operator whereby the latter agrees to furnish 6,000 tons of coal for use in connection with the construction and operation of the railroad.

## SURVEY OF THE PUBLIC LANDS.

The General Land Office is engaged in the survey of the public lands in Alaska, and a large area was surveyed during the 1916 season east of Knik Arm and surrounding Anchorage. The survey was extended up the Susitna Valley, and subdivisional surveys were also made around Nenana. It is very important that this work be continued next year, so that all of the available agricultural lands tributary to the railroad may be subdivided, which will enable the prospective homesteader to enter the land without going to the expense of having a private survey made.

## ALL AGRICULTURAL LANDS SHOULD BE PUT TO USE.

Formerly the law has allowed a homesteader to take 320 acres. By an act of Congress approved July 8, 1916, the area which can be located upon under any one homestead was reduced to 160 acres. All agricultural lands in Alaska are covered with a heavy growth of timber and underbrush, the removal of which requires much time and labor. Having the homesteaders locate on smaller tracts will result in the establishment of more thickly settled farming communities and the reduction of large areas of unused land. It was realized that many homesteaders, who had located more than 160 acres, would be unable to cultivate the area required by the homestead act. Letters were sent to these homesteaders requesting them to advise whether they desire to relinquish any portion of their land; and, if so, the number of acres and at what price. Quite a number have expressed a desire to reduce their holdings.

## GOVERNMENT SHOULD AID HOMESTEADERS.

The homesteader in Alaska should be dealt with liberally, as he has more difficulties confronting him than do those in the States. Fares and freight rates to Alaska are high. The clearing of his land is expensive. He must have enough money to tide him over for the first year or he must seek employment in the mines or elsewhere. The Alaskan Engineering Commission has furnished considerable employment to the settlers. If Congress would extend the rural credits law to Alaska and assist the farmers there as in the States, it would greatly encourage the development of the agricultural lands, and, as a consequence, help the railroad.

## DEVELOPMENT OF TOWN SITES.

### ANCHORAGE.

At Anchorage during the year 1915 there were sold 888 lots, at a total price of $177,180, on which initial payment of $60,741.05 was made. During the spring and summer of this year (1916), because of a large influx of population and a consequent demand for residence lots, additional sales were held on July 22 and 24 and on October 3 and 6. At these sales 220 lots were sold, which brought $39,665, on which an initial payment was made of $13,298. The town now has a population of over 4,000. A water system has been installed, and the thickly settled portion of the town is supplied with running water. This system is being gradually extended. The source of supply is a pumping station on Ship Creek. Recently the railroad terminal yards were connected with the city supply, and for that reason a portion of the cost of installation and operation will be chargeable to the commission. The cost of the construction and operation of the system to November 30, 1916, was $56,127.54.

### ELECTRIC LIGHT AND TELEPHONE.

A telephone system has been installed in the town in connection with the system of the commission, and a monthly charge is made for the service. An electric-light system is in course of construction. Street and sidewalk improvements have been made to the amount of $36,000. The sanitary regulations have been under the direction of the commission's health officer, and, as the result of energetic work on his part, there has been very little sickness in the town. The policing of the town is carried on under the jurisdiction of the Department of Justice, acting in cooperation with the town-site authorities.

### ASSESSMENTS.

The regulations under which the lots were sold gave the Secretary of the Interior authority to assess lots for improvements made for the benefit of the town. Assessments to date amounting to $28,000 have been made covering the cost of streets and sidewalks, fire protection, sanitation, and construction of waterworks. These have been paid with the exception of a small amount. Additional assessment notices amounting to $20,000 will shortly be issued, and it is expected that by March 1, 1917, nearly the entire amount of these assessments will have been collected. Amounts collected are being used to reimburse the railroad appropriation for expenditures for the purposes named.

### TOWN-SITE ADDITIONS TO SEWARD.

At Seward there were two tracts of land owned by the Government which were within the incorporated limits of the town. During the summer of 1915 these tracts, known as the Federal and Cliff

Additions to Seward, were subdivided into lots. Sales of lots within these additions were held on September 11 and September 21, 1916. The regulations for the sale of these lots were different from those in the towns where the Government owned all the property. To avoid complications in the matters of taxes, street assessments, etc., these lots were sold outright, one half the purchase price to be paid at time of sale, the balance being due in one year. There are no restrictions or conditions in the sale. The payments are required within one year in order that patents can issue and the town be thereby enabled to tax the lots as soon as practicable. The number of lots sold was 140, at a purchase price of $27,755, on which initial payment of $14,756 was made. In Seward, as in all the town sites, a number of lots were sold at a minimum price of $25 for the purpose of encouraging people of limited means to build homes and become part of the community.

### MATANUSKA.

A small town has been laid out at the junction of the main line of railroad with the branch leading to the Matanuska coal fields. It now has a population of about 200 people. The town is being managed by the town site organization at Anchorage. Street and sidewalk improvements to the amount of $3,003 have been made, and an assessment of $900 has been levied. The town is supplied with water from the system used by the commission for supplying its employees and railroad yards.

### NENANA.

The town of Nenana is situated adjacent to the crossing of the Tanana River by the railroad line. On August 24 and 25, an auction sale was held, resulting in the sale of 349 lots at a sale price of $129,705 and an initial payment of $44,367.77. At present the town has a population of about 800, including employees of the commission. Nenana will be a transfer point between the railroad and steamers operating on the lower Yukon and Tanana Rivers. The town is located in a level country which is capable of considerable agricultural development. Considerable progress has been made in the way of street improvements. A water system is being planned, and electric light and telephone systems have been installed. The affairs of the town are administered by a town site manager.

*Recapitulation of sale of lots.*

| Town site. | Total lots sold. | Sale price. | Initial payment. |
|---|---|---|---|
| Anchorage | 1,108 | $216,845.00 | $74,039.05 |
| Matanuska | 59 | 9,815.00 | 3,443.40 |
| Nenana | 349 | 129,705.00 | 44,367.77 |
| Seward | 140 | 27,655.00 | 14,756.00 |
| Total | 1,656 | 384,020.00 | 136,606.22 |

## PEOPLE SATISFIED WITH MANAGEMENT.

The people living in the town sites where the Government retains control of the lots, are generally satisfied with the administration by the Government. They seem to feel they are getting more improvements for the money than would be the case were the towns incorporated.

The establishment of towns along the railroad will result in the creation of industries of various kinds, as sawmills, brickyards, dairy farms, etc., all meaning business for the railroad. Many of the purchasers are building permanent homes in which to live all the year instead of remaining in Alaska only during the summer, as has been the practice in the past.

## LEASING OF LANDS UNDER CONTROL OF THE COMMISSION.

At Seward there was acquired by the purchase of the Alaska Northern considerable ground along the water front. This ground has been largely occupied by squatters who erected thereon small cabins and shacks, which were very detrimental to the appearance of the town. These squatters were encouraged to purchase cheap lots in the new additions to the town and to remove their residence thereto. This plan seems to have given much satisfaction and has resulted in a vast improvement in the appearance of the water front. It has not been considered desirable to dispose permanently of any of the vacated land, but for the Government to keep control thereof. An industrial spur has been constructed along the water front and leases have been made to several business firms for warehouse sites, lumber yards, fish salteries, and other purposes. These will all bring business to the railroad. The terms of the leases are liberal, and certain conditions are inserted relating to fire protection and other essential matters. Under the terms specified the lessees can afford to erect substantial buildings that will be an improvement to the town.

A similar policy has been adopted at Anchorage, where a new industrial district has been established on the tide flats on the south side of Ship Creek, between the railroad and the town.

At Nenana arrangements have been made to lease sites for docks and wharves along the water front on the Tanana River, as well as for warehouses and other industries.

At various other points where town sites have not as yet been surveyed, temporary permits to occupy railroad ground have been granted until permanent locations can be made.

## RESTORATION TO ENTRY OF LANDS WHICH HAVE BEEN WITHDRAWN FOR TOWN SITE AND RAILROAD PURPOSES.

On recommendation of the land and industrial department, the four sections of land included in Alaska town site withdrawal No. 4 have been restored to entry, as it was found that the land was not required for Government purposes. Recommendation has been made for restoration to entry of several thousand acres within the "Matanuska River" withdrawal, which was included in Alaska town site withdrawal No. 1. Arrangements have been made to retain 440 acres for railroad and town site purposes and 1,040 acres for an agricultural station.

At Seward recommendation has been made for the restoration of all land included within Alaska town site withdrawal No. 1, of December 5, 1911, as amended by Executive order of August 24, 1912. This comprises an area 12 by 24 miles, and includes considerable agricultural land at the head of Resurrection Bay.

## CREATION AND ELIMINATION OF TIMBER RESERVATIONS.

For the purpose of retaining control of timber suitable for use in the construction of the railroad, various timber reservations have been made. These reservations do not in any way interfere with the settlement and location of lands included within them, nor do they prevent the sale of timber under Section 11 of the act of Congress of May 14, 1898, and the regulations thereunder. These sales are handled by the field service of the General Land Office. Special agents of the field service have worked in close cooperation with the commission in handling timber within these reservations. It is expected as fast as various units of the railroad are completed these reservations will be eliminated.

## ADDITIONAL LAND DISTRICT.

It is recommended that an additional land district be created with offices at Seward or Anchorage. At the present time there is but one land district for the first and third judicial division, which includes all of the southern part of Alaska from Ketchikan to and including the Aleutian Islands. Many homesteads have been located from Seward north on lands tributary to the railroad, and there will be much business for a land office from this section. It is very inconvenient and expensive for homesteaders and other public land claimants to travel the long distance to Juneau to transact their business.

## EXPORTATION OF BIRCH WOOD.

The law prohibits the exportation of timber from Alaska, excepting pulp wood and wood pulp. There is no demand for the exportation of ordinary timber from Alaska but there is some demand for birch timber. There are considerable bodies of this timber upon the public lands along the line of the railroad in the Susitna and Matanuska valleys. This timber is suitable for flooring, furniture, and finishing. Several requests have been made for permission to export it for these purposes. This timber is mostly located in land that will eventually be cleared for cultivation, and when such clearing takes place much of this timber will be burned or used for firewood. It would seem, therefore, that it would be good economy to amend the law so as to allow the exportation of birch wood from Alaska. This would not only be an economic saving but would probably result in considerable traffic for the railroad in transporting the timber to tidewater.

## CONCLUSION.

The land and industrial department is keeping in close touch with conditions in the territory tributary to the railroad and feels fully justified in prophesying a considerable increase in business and industrial activities in the near future.

## SEATTLE PURCHASING OFFICE.

During the calendar year ending December 31, 1916, there were placed by the purchasing office in Seattle 3,659 purchase orders for material and supplies amounting to $3,243,492.01. Included therein were orders placed under formal contracts amounting to $1,224,245.28, some of the principal items being rail and fittings, $654,712; bridge timbers, $149,268.86; purchases for commissaries (principally articles of food and clothing), $357,285.67; forage, $44,613.76; and various smaller items.

There were purchased 17,820 tons of 70-pound open-hearth rail at $30 per ton. The price of rail advanced before the end of the year to $40 per ton. Floating equipment costing $116,256.48 was purchased. Transportation by rail and water was arranged for, amounting to nearly $900,000.

This department also arranged for the inspection of all equipment, materials, and supplies. Some inspections were made by employees of the purchasing office, some by the Pacific Lumber Inspection Bureau and representatives of other Government departments, but the majority of the inspections were made by Hildreth & Co., a large inspecting and engineering concern. The commission executed an annual contract with this company. These inspections were made at a rate of 0.91 of 1 per cent of the invoice price of materials purchased, which is considered a very reasonable price.

## MEDICAL SERVICE AND SYSTEM OF COMPENSATION FOR INJURY.

The following Executive order promulgating regulations for hospital service in connection with the construction and operation of the Government railroad in Alaska was approved by the President on June 30, 1916:

### EXECUTIVE ORDER, ALASKA RAILROAD NO. 6.

Upon the recommendations of the Secretary of the Interior and of the Alaskan Engineering Commission, and under authority given in act of Congress approved March 12, 1914 (38 Stat., 305) I hereby establish the following regulations for hospital service in connection with the construction and operation of the Government railway in Alaska:

The Alaskan Engineering Commission will under certain restrictions make no charge for the service of its medical or surgical officers for medical or surgical aid furnished to any employee injured or taken sick in Alaska, or medical or surgical aid furnished to any person, who, while under contract with the commission, is injured or taken sick in Alaska: *Provided,* That at the time of such injury or inception of such sickness he be actually engaged in the work of construction of the Alaskan railways under contract with and under the supervision of said Commission, and that his injury or sickness occurs in the course of and arises out of such work.

The following benefits shall be furnished, subject to the regulations hereinafter laid down, namely:

(*a*) Hospital service.
(*b*) Medical and surgical treatment.
(*c*) Medicines and surgical dressings.
(*d*) Artificial limbs and eyes.

*Hospital treatment.*—Hospital treatment, under care of surgeons of the commission will be provided at such hospitals as are now operated or may hereafter be operated by the commission or at such hospitals as are or hereafter may be under contract with the commission, to furnish such service.

Patients who require special care and nursing or who have not proper facilities at their homes for satisfactory treatment may be sent to hospital when deemed necessary by the attending physician. Board and nursing will not be furnished outside of hospital.

Patients should be discharged from hospital when in opinion of the surgeons in charge, they do not require further treatment there. Should patients insist upon remaining in hospital to save expense of board and lodging, when no longer requiring hospital treatment, surgeons will promptly refer the matter, with full particulars to the manager of the department in which the hospital is located.

*Medical and surgical treatment.*—Medical and surgical treatment will be given employees and others under contract with the commission, with the same consideration and care given private patients, and by a staff of surgeons provided by the Alaskan Engineering Commission.

These surgeons will render necessary treatment at any point within their districts, either at commission or contract hospitals, at their offices, or at the homes of patients, as may be necessary. Patients or persons requiring continuous treatment, should when practicable, be sent to hospital. In cases of emergency, when for some sufficient reason the services of the commission's surgeons are not available, first aid may be rendered by any available surgeon and the bill for such services rendered to the commission. As soon as possible, the patient should be placed under the care of the surgeons regularly employed by the commission. Patients wishing to consult other physicians other than those on the medical staff of the commission will do so at their own expense unless such consultation is especially requested by the commission's physicians.

*Medicines and surgical dressings.*—Medicines and surgical dressings will be provided at the various hospitals, for patients therein. Such supplies will be furnshed for patients outside of hospitals, at all points where surgeons are located, when feasible. Reasonable bills for drugs and medicines, ordered by surgeons will be allowed. No prescriptions will be refilled except on written order from the physician.

*Artificial limbs and appliances.*—The commission will furnish artificial limbs and eyes to those who have lost limbs or eyes, while in an accident which entitled them to surgical service. These articles will not be renewed. Crutches will be furnished as needed. When treatment ceases, these should be returned promptly. Eye glasses and spectacles will not be furnished.

*Special rates in hospitals for dependent members of families.*—The dependent members of an employee's family will be admitted as patients into the hospitals maintained by the commission, and into contract hospitals, where feasible to arrange for same, on presenting a certificate signed by the head of the department in which employed: *Provided,* That such accommodations are available after making provision for sick and injured employees. The accommodations furnished therein will be charged for at what they actually cost the commission, and will cover board, lodging, and nursing. Furthermore, in all such cases the fees charged by the commission's physicians for any service rendered, will be made very reasonable, so as to have this expense as little burdensome as possible to employees.

*Use of hospital by patients not in the employ of or connected with the commission or other branches of the Government service.*—In localities where the commission's hospital is the only hospital in good standing and possesses conveniences and appliances not available elsewhere patients not connected with the work of the commission may be admitted to the hospital. *Provided, however,* That they do not occupy room or otherwise interfere with the service to be rendered to the commission's employees. Such patients shall pay full hospital rates to be fixed by the official in charge of the district in which the hospital is located.

Any officials or employees of any department of the United States Government service on duty in the vicinity of a commission hospital or members of their families may be cared for in such hospitals under the rules regulating families of employees.

*Who will not be given free medical or surgical treatment.*—Benefits will not be given for ailments due to venereal diseases, intemperance, vicious habits, injuries received in a fight or brawl, or unlawful acts, nor for chronic diseases contracted before entering the employ of the commission, nor for injuries sustained while not in actual service. In contagious diseases treatment can not be given in regular hospitals, but patients will be isolated and treatment given, or will be turned over to the Federal quarantine officers. In cases of diphtheria, measles, scarlet fever and mumps, erysipelas, smallpox, or whooping cough, owing to danger of these diseases spreading to other sick and injured employees in hospital, treatment shall, as far as possible, be given at home, or at some proper place outside of hospital.

Consumptives, if disease is developed while employed by the commission, will be given treatment outside the hospital, but will not be given hospital treatment, except at such points as the commission may from time to time direct.

Insanity cases will be turned over to the Territorial authorities.

Treatment for injury or sickness will continue as long as, in the opinion of the attending surgeon, it is necessary, but will not exceed four months' continuous treatment at hospital or 12 months continuous treatment outside of hospital except by special arrangement by the commission.

Employees who abuse the benefits of the service or flagrantly or persistently violate the regulations will be excluded from further benefits of the service.

*Orders for treatment.*—The commissioner or other official in charge of any department of the commission's work shall designate whom he wishes to issue orders for medical or surgical treatment. A list of men so designated shall be sent to all surgeons and to the chairman of the commission. An order signed by some one authorized to issue it must be given at the time his services are first required to the surgeon and a new order must be given to him each month thereafter as long as treatment continues for that ailment or injury unless the party is a patient in a hospital. If patient recovers from the ailment or injury for which order was issued and requires treatment during same month or later for another ailment he must furnish a new order.

In case of serious accident or in emergency cases telegraphic or other informal orders may be issued, but when an order is not secured at the time of first attention it should be sent to surgeon as soon thereafter as possible. The surgeon shall after careful examination decide whether patient had best be treated at hospital or receive outside treatment. If at hospital an order should be issued by the surgeon to that effect directed to the person in charge of the hospital.

*Moving the injured or sick.*—In case of serious injury or sickness where patients are to be sent to hospital superintendents and foremen will see that they are transported there with all possible dispatch, and will arrange for competent attendant to accompany them when such is advisable, or will do so themselves if necessary.

*Applicants for employment in the service of the commission.*—All applicants for employment other than ordinary unskilled laborers and station men shall submit to physical examination by the examining surgeons of the commission and those not in good physical condition to perform the duties of the position for which application is made rejected. In case of unskilled labor and station men the foreman or engineer in charge of the work on which applicant is to be engaged should inquire carefully into his physical condition and state of health, and where he is manifestly suffering from some chronic ailment his application should be rejected.

*Sanitary conditions.*—All surgeons will be expected to pay strict attention to sanitary conditions at all points of the work within their jurisdiction, or where employees live in large numbers, and to report at once to the commission anything coming to their notice detrimental to the health of employees.

WOODROW WILSON.

The WHITE HOUSE, *June 30, 1916.*

During 1916 the hospital facilities were considerably enlarged on the Anchorage and Fairbanks divisions, new hospital buildings having been erected at Anchorage and Nenana, respectively. The building at Anchorage is a four-story frame structure 42 by 100 feet, and contains accommodations for 65 patients. Each of these hospitals has been equipped throughout in a modern up-to-date manner, the operating room having been furnished with the latest type of appliances known to the surgical world. Each hospital is conducted under the direction of a chief surgeon, with a competent staff of assistant surgeons, nurses, and stewards. The hospital building at Nenana is a two-story frame structure 34 by 52 feet. On account of there being no adequate private hospital facilities at Anchorage or Nenana, the commission has received for treatment at its hospitals on a pay basis persons other than employees. At Seward, an excellent private hospital having been started in the autumn of 1915 and satisfactory and economical arrangements having been entered into with the management thereof for the treatment of employees and station men engaged upon the railway construction work, it was deemed more advantageous to utilize the facilities thus afforded than for the commission to erect a hospital of its own. Contracts are made with local physicians and surgeons at Seward for the treatment of sick and injured men engaged on the construction work along the line of the Alaska Northern Railway from Seward to Glacier Creek (mile 76).

## SUMMARY OF HOSPITAL REPORTS.

### *Anchorage division.*

[Information not separately recorded for months where no figures are furnished.]

| Class. | January. | February. | March. | April. | May. | June. | July. | August. | September. | October. | November. | December. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Dispensary cases treated during month | 53 | 61 | 50 | 105 | 219 | 205 | 274 | 218 | 251 | 403 | 204 | 164 |
| Dispensary treatments given during month | .... | .... | .... | .... | .... | .... | 508 | 451 | 490 | 812 | 510 | 409 |
| Employees confined in hospital, account of injuries | 5 | 6 | 6 | 3 | 5 | 6 | 8 | 15 | 10 | 12 | 25 | 11 |
| Employees confined in hospital, account of illness | 5 | 5 | 5 | 1 | 11 | 13 | 16 | 14 | 18 | 27 | 15 | 16 |
| Private cases treated during month | 2 | 9 | 6 | 8 | 14 | 19 | 25 | 28 | 31 | 32 | 30 | 29 |
| Cases of employees' families treated during month | 2 | .... | .... | .... | 8 | .... | 7 | 11 | 5 | 12 | 17 | 21 |
| Examinations made during month | .... | .... | .... | .... | .... | .... | 295 | 305 | 195 | 141 | 71 | 110 |

### *Seward division.*

[Information not separately recorded for months where no figures are furnished.]

| Class. | January. | February. | March. | April. | May. | June. | July. | August. | September. | October. | November. | December. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Dispensary cases treated during month | 8 | 8 | 3 | 7 | 8 | 12 | 18 | 20 | 22 | 21 | 29 | 24 |
| Employees confined in hospital, account of injuries | .... | 1 | .... | 1 | 3 | 3 | 8 | 6 | 6 | 10 | 10 | 5 |
| Employees confined in hospital, account of illness | .... | .... | .... | .... | .... | .... | 1 | 2 | 1 | 4 | 3 | 4 |

NOTE.—Contract was signed Jan. 24, 1916, with Seward General Hospital (a private institution) by the terms of which this hospital agrees to furnish hospital service for employees of the commission.

### *Fairbanks division.*

[Information not separately recorded for months where no figures are furnished.]

| Class. | June. | July. | August. | September. | October. | November. | December. |
|---|---|---|---|---|---|---|---|
| Dispensary cases treated during month | 8 | 31 | 70 | 81 | 96 | 73 | 44 |
| Employees confined in hospital, account of injuries | .... | 4 | 7 | 4 | 7 | 12 | 5 |
| Private cases treated during month | 1 | 3 | 5 | 7 | 10 | 15 | 15 |

NOTE.—Construction began on Fairbanks division in June, 1916.

During the final days of the first session of the Sixty-fourth Congress there was enacted a Government employees' compensation measure entitled "An act to provide compensation for employees of the United States suffering injuries while in the performance of their duties, and for other purposes." A copy of this act is included herein (Appendix D). By virtue of the authority contained in section 43 of this act the President approved the following Executive order directing the chairman of the commission to administer the provisions of the act in so far as employees of the commission are concerned:

## EXECUTIVE ORDER, ALASKA RAILROAD NO. 7.

Upon the recommendations of the Secretary of the Interior and the chairman of the Alaskan Engineering Commission, and by virtue of authority contained in section 42 of "An act to provide compensation for employees of the United States suffering injuries while in the performance of their duties, and for other purposes," (Public No. 267—64th Cong., 39 Stat., p. 742) approved September 7, 1916, I hereby direct the chairman of the Alaskan Engineering Commission to administer the provisions of this act in so far as employees of the Alaskan Engineering Commission are concerned; and the expenses of medical examinations under sections 21 and 22, and the reasonable traveling and other expenses and loss of wages payable to employees under section 21, shall be paid out of appropriations for "Construction and operation of railroads in Alaska."

I further direct the chairman of the Alaskan Engineering Commission to pay the compensation provided by the aforementioned act, including the medical, surgical, and hospital services and supplies provided by section 9 and the transportation and burial expenses provided by sections 9 and 11 out of appropriations for the "Construction and operation of railroads in Alaska," such appropriations to be reimbursed for such payments by transfer of funds from the employees' compensation fund.

WOODROW WILSON.

The WHITE HOUSE, *September 29, 1916.*

## APPENDIX B.—OPERATING STATISTICS FOR PERIOD JANUARY TO DECEMBER, 1916—ANCHORAGE DIVISION.

[Compiled in accordance with Interstate Commerce Commission classification.]

| | | January. | February. | March. | April. | May. | June. |
|---|---|---|---|---|---|---|---|
| | *Revenue passenger traffic.* | | | | | | |
| 1 | Number of passengers carried earning revenue | 108 | 226 | 597 | 309 | 133 | 543 |
| 2 | Number of passengers carried 1 mile | 1,268.4 | 4,462.4 | 12,960.0 | 7,624.6 | 4,131 | 15,066 |
| 3 | Number of passengers carried 1 mile per mile of road | 105.7 | 202.8 | 589.1 | 293.2 | 115 | 419 |
| 4 | Average distance carried—miles | 11.74 | 19.74 | 21.71 | 24.67 | 31.6 | 27.7 |
| 5 | Total passenger revenue | $75.00 | $267.40 | $775.85 | $458.85 | $253.08 | $904.75 |
| 6 | Average amount received from each passenger | .69 | 1.18 | 1.30 | 1.48 | 1.90 | 1.67 |
| 7 | Average receipts per passenger per mile | .0575 | .0586 | .0591 | .0600 | .061 | .060 |
| 8 | Total passenger service train revenue | 75.00 | 267.40 | 865.15 | 458.85 | 253.08 | 904.75 |
| 9 | Passenger service train revenue per mile of road | 6.25 | 12.15 | 39.32 | 17.65 | 7.05 | 25.20 |
| 10 | Passenger service train revenue per train mile | .1143 | .2007 | .6269 | .4881 | .155 | .502 |
| | *Revenue freight traffic.* | | | | | | |
| 11 | Number of tons carried of freight earning revenue | .045 | 25.246 | 81.301 | 6.928 | 30.18 | 38.71 |
| 12 | Number of tons carried 1 mile | .06 | 547.96 | 1,789.33 | 191.04 | 893.44 | 1,233.28 |
| 13 | Number of tons carried 1 mile per mile of road | .004 | 24.90 | 81.33 | 7.34 | 24.89 | 34.35 |
| 14 | Average distance haul of 1 ton—miles | 12.7 | 21.7 | 22.01 | 27.57 | 29.6 | 31.9 |
| 15 | Total freight revenue | $0.30 | $135.98 | $366.04 | $54.06 | $239.15 | $274.65 |
| 16 | Average amount received for each ton of freight | 6.66 | 5.39 | 4.50 | 7.80 | 7.92 | 7.09 |
| 17 | Average receipts per ton mile | 5.00 | .24 | .20 | .28 | .27 | .22 |
| 18 | Freight revenue per mile of road | .02 | 6.18 | 16.63 | 2.07 | 6.67 | 7.65 |
| 19 | Freight revenue per train mile | .0004 | .1020 | .2652 | .0575 | .15 | .15 |
| | *Total traffic.* | | | | | | |
| 20 | Operating revenues | 73.30 | 403.38 | 1,231.19 | 512.91 | 744.25 | 1,525.27 |
| 21 | Operating revenues per mile of road | 6.27 | 18.33 | 55.96 | 19.72 | 20.73 | 42.49 |
| 22 | Operating revenue per train mile | .1147 | .3028 | .8921 | .5456 | .46 | .82 |
| | *Operating averages.* | | | | | | |
| 28 | Average number of passengers per car mile | ........ | ........ | ........ | ........ | .0815 | .1934 |
| 29 | Average number of passengers per train mile | .1646 | .1697 | .4326 | .3287 | .0815 | .3017 |
| 30 | Average number of passenger cars per train mile | ........ | ........ | ........ | ........ | 1.0000 | 1.5600 |
| 31 | Average number of tons of freight per loaded car mile | ........ | ........ | .0310 | .0038 | .0061 | .0528 |
| 32 | Average number of tons of freight per train mile | .0002 | .0189 | .0589 | .0073 | .0184 | .0207 |
| 33 | Average number of freight care per train mile | ........ | ........ | .1761 | .1138 | .2072 | .2433 |
| 34 | Average number of loaded cars per train mile | ........ | ........ | .0920 | .0574 | .1127 | .1273 |
| 35 | Average number of empty cars per train mile | ........ | ........ | .0841 | .0564 | .0944 | .1160 |
| 36 | Average mileage operated during the month | 12 | 22 | 22 | 26 | 35.9 | 35.9 |

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| | *Locomotive mileage.* | | | | | | |
| 37 | Freight locomotive miles—revenue service | | | | | | 70 |
| 38 | Passenger locomotive miles—revenue service | | | | | | |
| 39 | Mixed locomotive miles—revenue service | 656 | 1,332 | 1,380 | 921 | 1,632 | 1,824 |
| 42 | Total revenue locomotive miles | 656 | 1,332 | 1,380 | 921 | 1,632 | 1,894 |
| 43 | Nonrevenue service locomotive miles (work) | 1,630 | 1,130 | 2,182 | 4,737 | 6,253 | 7,216 |
| 43a | Nonrevenue service locomotive miles (switch) | 1,128 | 1,092 | 1,638 | 270 | 3,392 | 3,416 |
| | *Car mileage.* | | | | | | |
| 44 | Loaded freight car miles—revenue service | | | 2,616 | 1,805 | 4,921 | 7,321 |
| 45 | Empty freight car miles—revenue service | | | 2,330 | 1,421 | 4,401 | 7,373 |
| 46 | Caboose freight car miles—revenue service | | | 1,160 | 955 | | |
| 47 | Total freight car miles—revenue service | | | 4,946 | 3,226 | 9,322 | 14,694 |
| 48 | Passenger car miles—revenue service | | | | | 1,632 | 2,808 |
| 51 | Total passenger train car miles—revenue service | | | | | 1,632 | 2,808 |
| 59 | Total revenue car mileage | | | 4,946 | 3,226 | 10,954 | 17,502 |
| 60 | Nonrevenue service car miles (work) | | | | 46,442 | 72,170 | 59,727 |
| | *Train mileage.* | | | | | | |
| 61 | Freight train miles—revenue service | | | | | | 70 |
| 63 | Mixed train miles—revenue service | 656 | 1,332 | 1,380 | 940 | 1,632 | 1,800 |
| 65 | Total revenue train mileage | 656 | 1,332 | 1,380 | 940 | 1,632 | 1,870 |
| 66 | Nonrevenue service train miles | 208 | 356 | 190 | 4,305 | 6,212 | 5,969 |

## EQUIPMENT IN SERVICE AND DESCRIPTION OF ROAD.

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| | *Locomotives.* | | | | | | |
| 1 | Single-expansion locomotives—number | 3 | 2 | 3 | 4 | 4 | 5 |
| 2 | Total tractive power—pounds | 63,310 | 47,960 | 63,310 | 87,290 | 87,290 | 111,270 |
| 3 | Average tractive power—pounds | 21,103 | 23,980 | 21,103 | 21,822 | 21,822 | 22,254 |
| 4 | Average weight on drivers—tons | 48 | 54 | 48 | 49 | 50 | 50 |
| 5 | Average weight exclusive of tender—tons | 56 | 63 | 56 | 57 | 57 | 58 |
| | *Freight cars.* | | | | | | |
| 16 | Box cars—number | | | 2 | 2 | 2 | 2 |
| 17 | Total capacity—tons | | | 60 | 60 | 50 | 50 |
| 18 | Flat cars—number | 15 | 15 | 15 | 15 | 34 | 44 |
| 19 | Total capacity—tons | 270 | 270 | 270 | 270 | 1,360 | 1,760 |

APPENDIX B.—*Operating statistics for period January to December, 1916—Anchorage division*—Continued.

EQUIPMENT IN SERVICE AND DESCRIPTION OF ROAD—Continued.

| | | January. | February. | March. | April. | May. | June. |
|---|---|---|---|---|---|---|---|
| | ***Freight cars*—Continued.** | | | | | | |
| 20 | **Stock cars—number** | | | | | | |
| 21 | **Total capacity—tons** | | | | | | |
| 22 | **Coal cars—number** | | | | | | |
| 23 | **Total capacity—tons** | | | | | | |
| 24 | Tank cars—number | | | | | | |
| 25 | Total capacity—tons | | | | | | |
| 28 | Other cars—number | | | | | | |
| 29 | Total capacity—tons | | | | | | |
| 30 | All classes—number | 15 | 15 | 17 | 17 | 36 | 46 |
| 31 | Total capacity—tons | 270 | 270 | 330 | 330 | 1,410 | 1,810 |
| | ***Passenger train cars.*** | | | | | | |
| 32 | First-class cars—number | | | | | | |
| 34 | Combination cars—number | 1 | 1 | 1 | 1 | 1 | 1 |
| 40 | Other passenger train cars—number | 1 | 1 | 1 | 1 | 1 | 1 |
| 41 | **All classes—number** | 2 | 2 | 2 | 2 | 2 | 2 |
| | ***Cars in service.*** | | | | | | |
| 42 | **All classes—number** | 47 | 47 | 47 | 47 | 52 | 52 |
| | **DESCRIPTION OF ROAD.** | | | | | | |
| | ***Mileage operated.*** | | | | | | |
| 43 | **Miles of road** | 12 | 22 | 22 | 26 | 35.9 | 35.9 |
| 47 | **Miles of yard track and sidings** | .58 | 1.87 | 1.87 | 2.55 | 7.09 | 7.63 |
| 48 | **Total miles of all tracks** | 12.58 | 23.87 | 23.87 | 28.55 | 42.99 | 43.53 |

| | | July. | August. | September. | October. | November. | December. |
|---|---|---|---|---|---|---|---|
| | *Revenue passenger traffic.* | | | | | | |
| 1 | Number of passengers carried earning revenue | 762 | 825 | 757 | 908 | 1,126 | 1,356 |
| 2 | Number of passengers carried 1 mile | 24,039 | 26,725.4 | 23,616 | 29,759.6 | 32,075.7 | 38,961 |
| 3 | Number of passengers carried 1 mile per mile of road | 670 | 534 | 473.26 | 596.38 | 453.05 | 548.75 |
| 4 | Average distance carried—miles | 31.5 | 32.39 | 31.20 | 32.772 | 28.49 | 28.73 |
| 5 | Total passenger revenue | $1,250.60 | $1,501.60 | $1,363.85 | $1,738.00 | $1,848.15 | $2,343.60 |
| 6 | Average amount received from each passenger | 1.64 | 1.94 | 1.80 | 1.91 | 1.64 | 1.73 |
| 7 | Average receipts per passenger per mile | .052 | .039 | .058 | .058 | .058 | .06 |
| 8 | Total passenger service train revenue | 1,250.60 | 1,501.60 | 2,039.07 | 2,930.68 | 2,493.53 | 2,383.15 |
| 9 | Passenger service train revenue per mile of road | 34.84 | 30.03 | 40.86 | 58.73 | 35.22 | 33.57 |
| 10 | Passenger service train revenue per train mile | .61 | .546 | .888 | 1.2365 | 1.596 | 1.20 |
| | *Revenue freight traffic.* | | | | | | |
| 11 | Number of tons carried of freight earning revenue | 215.46 | 151.09 | 106.141 | 133.023 | 651.862 | 648.632 |
| 12 | Number of tons carried 1 mile | 7,090.67 | 5,460.18 | 2,707.47 | 4,190.74 | 22,425.18 | 19,715.44 |
| 13 | Number of tons carried 1 mile per mile of road | 197.51 | 109.20 | 54.15 | 83.81 | 316.73 | 277.68 |
| 14 | Average distance haul of 1 ton—miles | 32.9 | 35.94 | 25.51 | 31.50 | 34.40 | 30.40 |
| 15 | Total freight revenue | $613.87 | $667.90 | $567.46 | $610.05 | $1,244.11 | $1,427.01 |
| 16 | Average amount received for each ton of freight | 2.85 | 4.42 | 5.35 | 4.59 | 1.91 | 2.20 |
| 17 | Average receipts per ton mile | .08 | .12 | .21 | .15 | .055 | .07 |
| 18 | Freight revenue per mile of road | 17.10 | 13.35 | 11.35 | 12.23 | 17.57 | 20.10 |
| 19 | Freight revenue per train mile | .29 | .24 | .25 | .26 | .80 | .72 |
| | *Total traffic.* | | | | | | |
| 20 | Operating revenues | 2,511.98 | 2,818.62 | 2,606.53 | 3,540.73 | 3,737.64 | 4,003.95 |
| 21 | Operating revenues per mile of road | 69.97 | 56.37 | 52.23 | 70.96 | 52.79 | 56.39 |
| 22 | Operating revenues per train mile | 1.18 | 1.02 | 1.14 | 1.49 | 2.39 | 2.01 |
| | *Operating averages.* | | | | | | |
| 28 | Average number of passengers per car mile | 6.99 | .1532 | .1841 | .1696 | .7288 | .5810 |
| 29 | Average number of passengers per train mile | .3715 | .2999 | .3298 | .3831 | .7205 | .6824 |
| 30 | Average number of passenger cars per train mile | .0531 | .0447 | .0401 | .0498 | .0249 | .0302 |
| 31 | Average number tons of freight per loaded car mile | .0275 | .0161 | .0125 | .0115 | .0733 | .0537 |
| 32 | Average number tons of freight per train mile | .1012 | .0549 | .0462 | .0561 | .4171 | .3263 |
| 33 | Average number of freight cars per train mile | .2100 | .1847 | .1529 | .2392 | .2514 | .2691 |
| 34 | Average number of loaded cars per train mile | .1080 | .0949 | .0958 | .1316 | .1465 | .1544 |
| 35 | Average number of empty cars per train mile | .1015 | .0901 | .0584 | .1076 | .1049 | .1147 |
| 36 | Average mileage operated during the month | 35.9 | 45.85 | 49.9 | 49.9 | 58.3 | 71.00 |

APPENDIX B.—*Operating statistics for period January to December, 1916—Anchorage division*—Continued.

| | | July. | August. | September. | October. | November. | December. |
|---|---|---|---|---|---|---|---|
| | *Locomotive mileage.* | | | | | | |
| 37 | Freight locomotive miles—revenue service | 119 | | | | | |
| 38 | Passenger locomotive miles—revenue service | | | | | | |
| 39 | Mixed locomotive miles—revenue service | 2,136 | 2,819 | 2,358 | 2,334 | 1,554 | 1,988 |
| 42 | Total revenue locomotive miles | 2,255 | 2,819 | 2,358 | 2,334 | 1,554 | 1,988 |
| 43 | Nonrevenue service locomotive miles (work) | 7,975 | 8,158 | 6,129 | 7,269 | 4,436 | 112 |
| 43a | Nonrevenue service locomotive miles (switch) | 2,898 | 2,868 | 3,206 | 3,577 | 2,148 | 1,008 |
| | *Car mileage.* | | | | | | |
| 44 | Loaded freight car miles—revenue service | 7,830 | 9,414 | 8,484 | 11,587 | 8,893 | 12,088 |
| 45 | Empty freight car miles—revenue service | 8,656 | 10,082 | 5,241 | 9,012 | 5,903 | 9,037 |
| 46 | Caboose freight car miles—revenue service | | | | | 1,385 | 3,212 |
| 47 | Total freight car miles—revenue service | 16,486 | 19,496 | 13,725 | 20,599 | 16,181 | 24,337 |
| 48 | Passenger car miles—revenue service | 109 | 5,384 | 4,112 | 5,352 | 1,545 | 2,334 |
| 51 | Total passenger train car miles—revenue service | 109 | 5,384 | 4,112 | 5,352 | 1,545 | 2,334 |
| 59 | Total revenue car mileage | 16,595 | 24,880 | 17,837 | 25,951 | 17,726 | 26,671 |
| 60 | Nonrevenue service car miles (work) | 73,408 | 43,491 | 46,811 | 46,318 | 20,197 | 240 |
| | *Train mileages.* | | | | | | |
| 61 | Freight train miles—revenue service | 77 | | | | | |
| 63 | Mixed train miles—revenue service | 2,051 | 2,751 | 2,296 | 2,370 | 1,563 | 1,988 |
| 65 | Total revenue train mileage | 2,128 | 2,751 | 2,296 | 2,370 | 1,563 | 1,988 |
| 66 | Nonrevenue service train mileage | 6,318 | 6,310 | 4,459 | 4,349 | 2,411 | 72 |

## EQUIPMENT IN SERVICE AND DESCRIPTION OF ROAD.

| | | July. | August. | September. | October. | November. | December. |
|---|---|---|---|---|---|---|---|
| | *Locomotives.* | | | | | | |
| 1 | Single expansion locomotives—number | 5 | 5 | 5 | 5 | 5 | 5 |
| 2 | Total tractive power—pounds | 111,270 | 111,270 | 111,270 | 111,270 | 111,270 | 111,270 |
| 3 | Average tractive power—pounds | 22,254 | 22,254 | 22,254 | 22,254 | 22,254 | 22,254 |
| 4 | Average weight on drivers—tons | 50 | 50 | 50 | 50 | 50 | 50 |
| 5 | Average weight exclusive of tender—tons | 58 | 58 | 58 | 58 | 58 | 58 |

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| | *Freight cars.* | | | | | | |
| 16 | Box cars—number | 7 | 12 | 10 | 10 | 10 | 10 |
| 17 | Total capacity—tons | 200 | 350 | 300 | 300 | 300 | 300 |
| 18 | Flat cars—number | 44 | 47 | 61 | 53 | 53 | 53 |
| 19 | Total capacity—tons | 1,760 | 1,880 | 2,440 | 2,120 | 2,120 | 2,120 |
| 20 | Stock cars—number | | | | 1 | 1 | 1 |
| 21 | Total capacity—tons | | | | 40 | 40 | 40 |
| 22 | Coal cars—number | 2 | 2 | 4 | 4 | 4 | 4 |
| 23 | Total capacity—tons | | 69 | 138 | 138 | 138 | 138 |
| 24 | Tank cars—number | | | 2 | 2 | 3 | 3 |
| 25 | Total capacity—tons | | | 60 | 60 | 90 | 90 |
| 28 | Other cars—number | | | | 4 | 4 | 4 |
| 29 | Total capacity—tons | | | | 68 | 68 | 68 |
| 30 | All classes—number | 53 | 61 | 77 | 74 | 75 | 75 |
| 31 | Total capacity—tons | | 2,301 | 2,938 | 2,726 | 2,736 | 2,736 |
| | *Passenger train cars.* | | | | | | |
| 32 | First-class cars—number | | | | 2 | 2 | 2 |
| 34 | Combination cars—number | 1 | 3 | | | | |
| 40 | Other passenger train cars—number | 1 | 1 | | | | |
| 41 | All classes—number | 2 | 4 | | 2 | 2 | 2 |
| | *Cars in service.* | | | | | | |
| 42 | All classes—number | 53 | 53 | 68 | 73 | 74 | 74 |
| | DESCRIPTION OF ROAD. | | | | | | |
| | *Mileage operated.* | | | | | | |
| 43 | Miles of road | 35.9 | 49.9 | 49.9 | 49.9 | 70.8 | 71.0 |
| 47 | Miles of yard track and sidings | 7.71 | 8.5 | 8.5 | 8.5 | 8.7 | 8.7 |
| 48 | Total of all tracks | 44.07 | 58.4 | 58.4 | 58.4 | 79.5 | 79.7 |

ANCHORAGE, ALASKA, *Februrary 24, 1917.*

## APPENDIX C.—REPORT OF WEATHER CONDITIONS AT ANCHORAGE, ALASKA, FROM OCTOBER 1, 1914, TO SEPTEMBER 30, 1916.

Record kept of climatic conditions at Ship Creek or Anchorage are complete from October 1, 1914.

The winter of 1914–15 was not considered typical and as no previous records are available the information received from those that spent previous winters there will have to be taken for what it is worth.

The lowest temperature recorded for the season of 1914–15 was 21° F. below zero, and that was but for a few hours or so in the middle of February, 1915.

No month had a mean minimum temperature below zero. February—the coldest month—had a mean minimum temperature of 4.93° above zero.

There was not a great amount of ice in the harbor for any length of time. On many days the harbor was entirely clear of ice. The ice began to appear the second week in November, 1914, and the harbor was reported clear April 7, 1915, although open to navigation much sooner.

The snowfall was only 37.3 inches for the season, January having the greatest amount of snowfall, 13.7 inches, for the month, and 5.3 inches in 24 hours. Snow lay on the ground continuously from November 21, 1914, until March 26, 1915. The greatest depth at any time being 14.2 inches. The first snow fell on the 1st of October (a trace) and the last on the 28th of April, 1915. Rain began to fall in April.

May, June, July, and August, 1915, were perfect months, with a few days rain in each month. September was the wettest month, having 4 inches of rain. Rainfall for the season, April 6, 1915, to October 13, 1915, was 9.9 inches. The warmest day during the summer occurred in June when the thermometer recorded 100° F.

The accompanying table will show the mean temperature for the month as being quite comfortable.

Snow began to fall on the 7th of October, 1915. It lay on the ground continuously from the 14th of October, 1915, until the 5th of April, 1916. The greatest depth at any time being 26 inches, December, 1915, having the greatest amount or 36 inches, 11 inches being the greatest snowfall in 24 hours.

During the winter season of 1915–16, 78 inches of snow fell or a little more than twice the amount for the winter of 1914–15. Ice began to appear in the harbor the first week in November and made the discharge of ocean-going steamers difficult about the middle of the month.

The ice conditions are very changeable, as the harbor will be entirely closed with floating ice one day and perfectly clear the next. Shore ice anchored from a distance of one-half mile or so from the 20th of January, 1916, to the 1st of March.

The harbor is never frozen solid, due to the great range of tide—about 36 feet maximum—but always moving in the main channel. Navigation opened about the 1st of April, 1916, but the harbor was not entirely clear of ice until the 24th for 1915–16 season.

There were quite a few heavy winds during this winter, but doing no great damage. The greatest velocity recorded was 54 miles an hour. The coldest weather recorded was 34° F. below zero and occurred on the 22d and 24th of January, 1915. January, 1916, had a mean minimum temperature of 12.4° F. below zero.

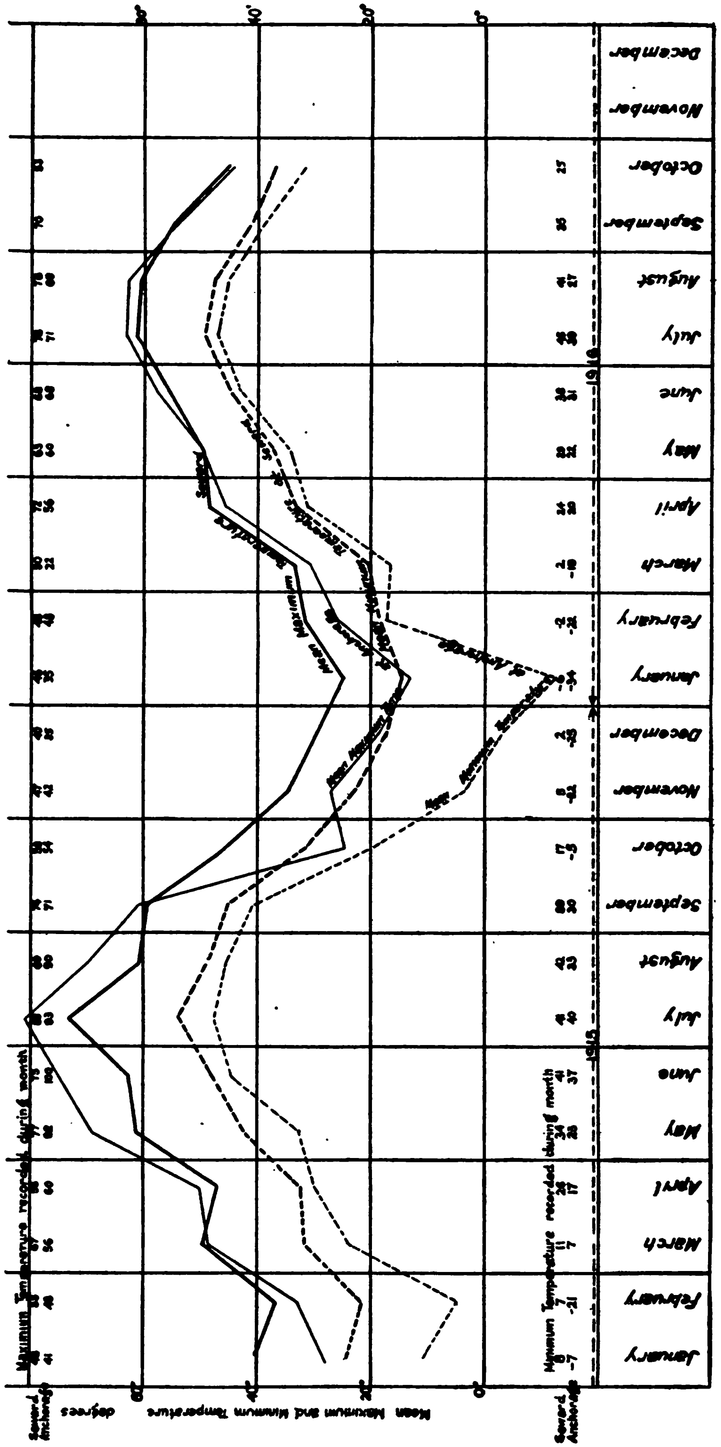
Neither of the past two winters could be considered typical, as there is such a vast difference between them.

March and April, 1916, were dry months, rain commencing the 1st of May.

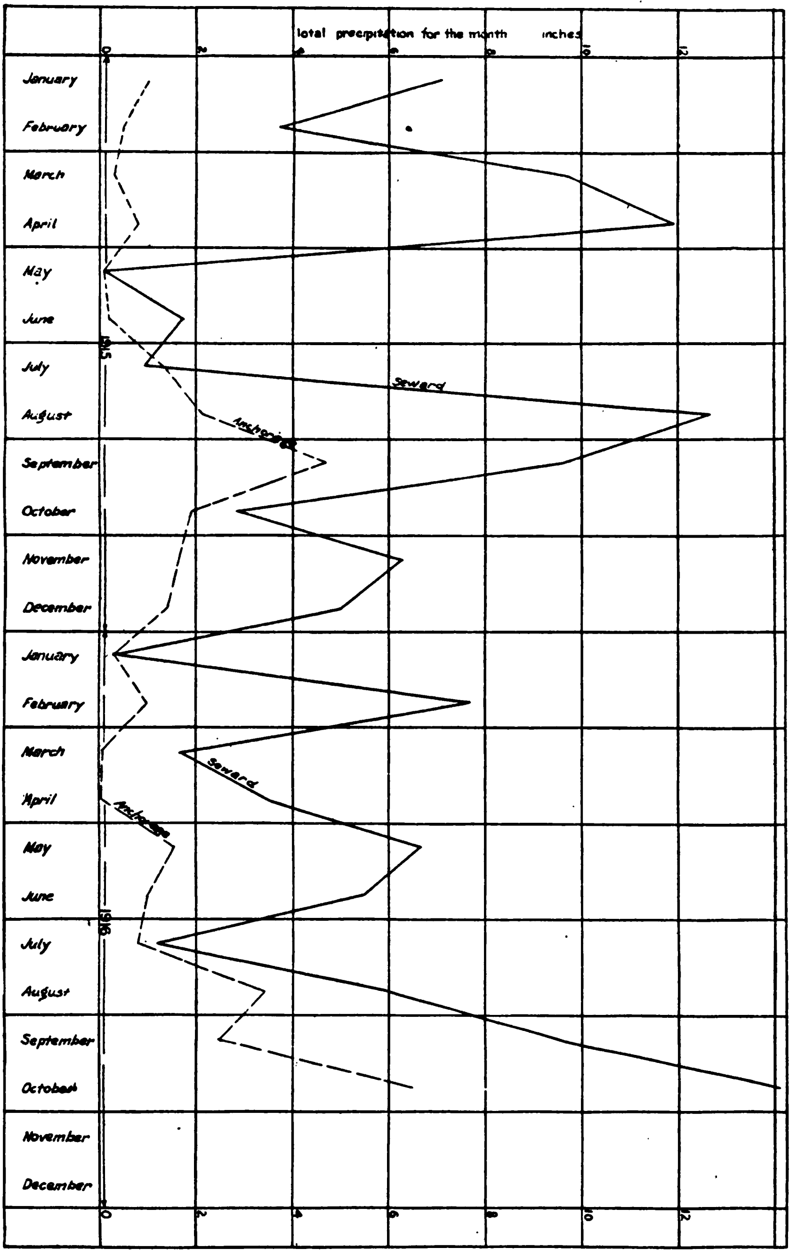
The summer of 1916 has been cool with more cloudy weather than otherwise, with a maximum temperature of 71° F. August and September were wet months, having a rainfall of 3.4 and 2.5 inches, respectively. October, 1916, to date is the wettest month, having 5.5 inches rainfall for 11 days.

[T., trace. Precipitation includes rain, hail, sleet, and melted snow.]

| Date. | Temperature. | | | | | | Precipitation (in inches). | | | Rain. | Snow (in inches). | | | | | Sky (days). | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Mean maximum. | Mean minimum. | Highest. | Date. | Lowest. | Date. | Total. | Greatest in 24 hours. | Date. | Days. | Total. | Greatest in 24 hours. | On ground 15th of month. | On ground end of month. | Days. | Clear. | Partly cloudy. | Cloudy. |
| **1914.** | | | | | | | | | | | | | | | | | | |
| October | 45.55 | 27.16 | 56 | 5, 6 | 13 | 24 | 0.44 | 0.23 | 27 | 4 | ........ | ........ | ........ | ........ | ........ | 15 | 6 | 10 |
| November | 31.83 | 10.96 | 53 | 18 | − 8 | 29 | .42 | .22 | 22 | ........ | 4.1 | 2.0 | T. | 2.7 | 8 | 14 | 4 | 12 |
| December | 29.13 | 17.51 | 40 | 15 | − 6 | 24 | .89 | .36 | 1 | 2 | 7.6 | 2.8 | 1.2 | 4.2 | 10 | 9 | 3 | 19 |
| **1915.** | | | | | | | | | | | | | | | | | | |
| January | 28.32 | 11.06 | 41 | 31 | − 7 | 14 | 1.08 | .30 | 18 | ........ | 13.7 | 5.3 | 4.4 | 10.1 | 10 | 11 | 5 | 15 |
| February | 32.79 | 4.93 | 48 | 23 | −21 | 16 | .53 | .19 | 20 | ........ | 7.8 | 3.1 | 8.1 | 10.4 | 6 | 14 | 3 | 11 |
| March | 48.29 | 23.48 | 56 | 22 | 7 | 31 | .27 | .25 | 23 | 2 | T. | T. | 7.1 | ........ | 1 | 13 | 6 | 12 |
| April | 50.03 | 29.53 | 60 | 29 | 12 | 2 | .78 | .21 | 17 | 11 | 4.1 | 2.1 | ........ | ........ | 6 | 2 | 6 | 22 |
| May | 69.00 | 32.52 | 92 | 30 | 23 | 9 | .08 | .05 | 25 | 5 | ........ | ........ | ........ | ........ | ........ | 15 | 10 | 6 |
| June | 75.30 | 44.40 | 100 | 20 | 37 | 11 | .74 | .18 | 29 | 15 | ........ | ........ | ........ | ........ | ........ | 11 | 11 | 8 |
| July | 80.58 | 47.74 | 93 | 5, 10, 24 | 40 | 14 | 1.34 | .74 | 1 | 8 | ........ | ........ | ........ | ........ | ........ | 18 | 8 | 5 |
| August | 69.80 | 45.40 | 90 | 13, 15 | 33 | 28 | 2.11 | .94 | 1 | 13 | ........ | ........ | ........ | ........ | ........ | 4 | 23 | 4 |
| September | 60.80 | 40.60 | 71 | 14 | 30 | 21, 23, 24 | 4.69 | .87 | 20 | 18 | ........ | ........ | ........ | ........ | ........ | 3 | 19 | 8 |
| October | 42.16 | 19.89 | 54 | 3 | − 5 | 18 | 1.93 | .47 | 11 | 7 | 7.0 | 2.5 | 2.5 | .2 | 6 | 9 | 15 | 7 |
| November | 26.67 | 3.50 | 42 | 4 | −22 | 28, 29 | 1.65 | .38 | 20 | ........ | 21.8 | 7.5 | 10.7 | 13.8 | 9 | 1 | 25 | 4 |
| December | 18.42 | − 2.87 | 35 | 30 | −25 | 31 | 1.40 | .42 | 8 | ........ | 36.0 | 11.0 | 23.1 | 21.9 | 13 | 2 | 25 | 4 |
| **1916.** | | | | | | | | | | | | | | | | | | |
| January | 13.42 | −12.39 | 35 | 4 | −34 | 23, 25 | .28 | .18 | 11 | ........ | 5.1 | 3.0 | 22.2 | 16.3 | 4 | 12 | 17 | 2 |
| February | 19.69 | − .38 | 48 | 25 | −22 | 1 | .98 | .57 | 26 | 3 | 8.5 | 5.0 | ........ | ........ | 5 | 9 | 17 | 3 |
| March | 30.55 | 6.45 | 44 | 22 | −19 | 12 | .01 | .01 | 30 | 1 | T. | T. | ........ | ........ | 1 | 17 | 12 | 2 |
| April | 45.57 | 27.80 | 56 | 29, 30 | 20 | 18 | T. | T. | 8, 14, 16 | ........ | T. | T. | ........ | ........ | 3 | 15 | 11 | 5 |
| May | 49.68 | 34.16 | 60 | 30 | 22 | 7 | 1.65 | .45 | 1 | 12 | T. | T. | ........ | ........ | 3 | 4 | 14 | 13 |
| June | 57.40 | 42.63 | 68 | 28 | 31 | 9, 15 | .96 | .23 | 28 | 17 | ........ | ........ | ........ | ........ | ........ | 3 | 12 | 15 |
| July | 62.68 | 46.55 | 71 | 22, 30, 31 | 39 | 29 | .75 | .43 | 6 | 4 | ........ | ........ | ........ | ........ | ........ | 6 | 17 | 8 |
| August | 62.58 | 45.23 | 69 | 1 | 33 | 22 | 3.41 | .70 | 10 | 24 | ........ | ........ | ........ | ........ | ........ | 3 | 18 | 10 |
| September | 53.90 | 38.53 | 64 | 2, 3, 4 | 28 | 11, 12 | 2.54 | .44 | 14 | 22 | ........ | ........ | ........ | ........ | ........ | 2 | 18 | 10 |



Comparative temperature chart—Anchorage and Seward, Alaska, 1915-16.



Comparative precipitation chart—Anchorage and Seward, Alaska, 1915-16.

TOTAL ANNUAL PRECIPITATION, 1915.

| | Inches. |
|---|---|
| Seward | 71.42 |
| Anchorage | 15.98 |

TOTAL ANNUAL PRECIPITATION, 1916.

| | Inches. |
|---|---|
| Seward (to November) | 56.11 |
| Anchorage (to November) | 15.92 |

## APPENDIX D.—AN ACT TO PROVIDE COMPENSATION FOR EMPLOYEES OF THE UNITED STATES SUFFERING INJURIES WHILE IN THE PERFORMANCE OF THEIR DUTIES, AND FOR OTHER PURPOSES.

### [PUBLIC—No. 267—64TH CONGRESS.—H. R. 15316.]

*Be it enacted by the Senate and House of Representatives of the United States of America in Congress assembled*, That the United States shall pay compensation as hereinafter specified for the disability or death of an employee resulting from a personal injury sustained while in the performance of his duty, but no compensation shall be paid if the injury or death is caused by the willful misconduct of the employee or by the employee's intention to bring about the injury or death of himself or of another, or if intoxication of the injured employee is the proximate cause of the injury or death.

SEC. 2. That during the first three days of disability the employee shall not be entitled to compensation except as provided in section nine. No compensation shall at any time be paid for such period.

SEC. 3. That if the disability is total the United States shall pay to the disabled employee during such disability a monthly compensation equal to sixty-six and two-thirds per centum of his monthly pay, except as hereinafter provided.

SEC. 4. That if the disability is partial the United States shall pay to the disabled employee during such disability a monthly compensation equal to sixty-six and two-thirds per centum of the difference between his monthly pay and his monthly wage-earning capacity after the beginning of such partial disability. The commission may, from time to time, require a partially disabled employee to make an affidavit as to the wages which he is then receiving. In such affidavit the employee shall include a statement of the value of housing, board, lodging, and other advantages which are received from the employer as a part of his remuneration and which can be estimated in money. If the employee, when required, fails to make such affidavit, he shall not be entitled to any compensation while such failure continues, and the period of such failure shall be deducted from the period during which compensation is payable to him.

SEC. 5. That if a partially disabled employee refuses to seek suitable work or refuses or neglects to work after suitable work is offered to, procured by, or secured for him, he shall not be entitled to any compensation.

SEC. 6. That the monthly compensation for total disability shall not be more than $66.67 nor less than $33.33, unless the employee's monthly pay is less than $33.33, in which case his monthly compensation shall be the full amount of his monthly pay. The monthly compensation for partial disability shall not be more than $66.67. In the case of persons who at the time of the injury were minors or employed in a learner's capacity and who were not physically or mentally defective, the commission shall, on any review after the time when the monthly wage-earning capacity of such persons would probably, but for the injury, have increased, award compensation based on such probable monthly wage-earning capacity. The commission may, on any review after the time when the monthly wage-earning capacity of the disabled employee would probably, irrespective of the injury, have decreased on account of old age, award compensation based on such probable monthly wage-earning capacity.

SEC. 7. That as long as the employee is in receipt of compensation under this act, or, if he has been paid a lump sum in commutation of installment payments, until the expiration of the period during which such installment payments would have continued, he shall not receive from the United States any salary, pay, or remuneration whatsoever except in return for services actually performed, and except pensions for service in the Army or Navy of the United States.

SEC. 8. That if at the time the disability begins the employee has annual or sick leave to his credit he may, subject to the approval of the head of the department, use such leave until it is exhausted, in which case his compensation shall begin on the fourth day of disability after the annual or sick leave has ceased.

SEC. 9. That immediately after an injury sustained by an employee while in the performance of his duty, whether or not disability has arisen, and for a reasonable time thereafter, the United States shall furnish to such employee reasonable medical, surgical, and hospital services and supplies unless he refuses to accept them. Such services and supplies shall be furnished by United States medical officers and hospitals, but where this is not practicable shall be furnished by private physicians and hospitals designated or approved by the commission and paid for from the employees' compensation fund. If necessary for the securing of proper medical, surgical, and hospital treatment, the employee, in the discretion of the commission, may be furnished transportation at the expense of the employees' compensation fund.

SEC. 10. That if death results from the injury within six years the United States shall pay to the following persons for the following periods a monthly compensation equal to the following percentages of the deceased employee's monthly pay, subject to the modification that no compensation shall be paid where the death takes place more than one year after the cessation of disability resulting from such injury, or, if there has been no disability preceding death, more than one year after the injury:

(A) To the widow, if there is no child, thirty-five per centum. This compensation shall be paid until her death or marriage.

(B) To the widower, if there is no child, thirty-five per centum if wholly dependent for support upon the deceased employee at the time of her death. This compensation shall be paid until his death or marriage.

(C) To the widow or widower, if there is a child, the compensation payable under clause (A) or clause (B) and in addition thereto ten per centum for each child, not to exceed a total of sixty-six and two-thirds per centum for such widow or widower and children. If a child has a guardian other than the surviving widow or widower, the compensation payable on account of such child shall be paid to such guardian. The compensation payable on account of any child shall cease when he dies, marries, or reaches the age of eighteen, or, if over eighteen, and incapable of self-support, becomes capable of self-support.

(D) To the children, if there is no widow or widower, twenty-five per centum for one child and ten per centum additional for each additional child, not to exceed a total of sixty-six and two-thirds per centum, divided among such children share and share alike. The compensation of each child shall be paid until he dies, marries, or reaches the age of eighteen, or, if over eighteen and incapable of self-support, becomes capable of self-support. The compensation of a child under legal age shall be paid to its guardian.

(E) To the parents, if one is wholly dependent for support upon the deceased employee at the time of his death and the other is not dependent to any extent, twenty-five per centum; if both are wholly dependent, twenty per centum to each; if one is or both are partly dependent, a proportionate amount in the discretion of the commission.

The above percentages shall be paid if there is no widow, widower, or child. If there is a widow, widower, or child, there shall be paid so much of the above percentages as, when added to the total percentages payable to the widow, widower, and children, will not exceed a total of sixty-six and two-thirds per centum.

(F) To the brothers, sisters, grandparents, and grandchildren, if one is wholly dependent upon the deceased employee for support at the time of his death, twenty per centum to such dependent; if more than one are wholly dependent, thirty per centum, divided among such dependents share and share alike; if there is no one of them wholly dependent, but one or more partly dependent, ten per centum divided among such dependents share and share alike.

The above percentages shall be paid if there is no widow, widower, child or dependent parent. If there is a widow, widower, child, or dependent parent, there shall be paid so much of the above percentages as, when added to the total percentage payable to the widow, widower, children, and dependent parents, will not exceed a total of sixty-six and two-thirds per centum.

(G) The compensation of each beneficiary under clauses (E) and (F) shall be paid for a period of eight years from the time of the death, unless before that time he, if a parent or grandparent, dies, marries, or ceases to be dependent, or, if a brother, sister, or grandchild, dies, marries, or reaches the age of eighteen, or, if over eighteen and incapable of self-support, becomes capable of self-support. The compensation of a brother, sister, or grandchild under legal age shall be paid to his or her guardian.

(H) As used in this section, the term "child" includes stepchildren, adopted children, and posthumous children, but does not include married children. The terms "brother" and "sister" include stepbrothers and stepsisters, half brothers and half sisters, and brothers and sisters by adoption, but do not include married brothers or married sisters. All of the above terms and the term "grandchild" include only persons who at the time of the death of the deceased employee are under eighteen years of age or over that age and incapable of self-support. The term "parent" includes stepparents and parents by adoption. The term "widow" includes only the decedent's wife living with or dependent for support upon him at the time of his death. The term "widower" includes only the decedent's husband dependent for support upon her at the time of her death. The terms "adopted" and "adoption" as used in this clause include only legal adoption prior to the time of the injury.

(I) Upon the cessation of compensation under this section to or on account of any person, the compensation of the remaining persons entitled to compensation for the unexpired part of the period during which their compensation is payable shall be that which such persons would have received if they had been the only persons entitled to compensation at the time of the decedent's death.

(J) In case there are two or more classes of persons entitled to compensation under this section and the apportionment of such compensation, above provided, would result in injustice, the commission may, in its discretion, modify the apportionment to meet the requirements of the case.

(K) In computing compensation under this section, the monthly pay shall be considered not to be more than $100 nor less than $50, but the total monthly compensation shall not exceed the monthly pay computed as provided in section twelve.

(L) If any person entitled to compensation under this section, whose compensation by the terms of this section ceases upon his marriage, accepts any payments of compensation after his marriage he shall be punished by a fine of not more than $2,000 or by imprisonment for not more than one year, or by both such fine and imprisonment.

Sec. 11. That if death results from the injury within six years the United States shall pay to the personal representative of the deceased employee burial expenses not to exceed $100, in the discretion of the commission. In the case of an employee whose home is within the United States, if his death occurs away from his home office or outside of the United States, and if so desired by his relatives, the body shall, in the discretion of the commission, be embalmed and transported in a hermetically sealed casket to the home of the employee. Such burial expenses shall not be paid and such transportation shall not be furnished where the death takes place more than one year after the cessation of disability resulting from such injury, or, if there has been no disability preceding death, more than one year after the injury.

Sec. 12. That in computing the monthly pay the usual practice of the service in which the employee was employed shall be followed. Subsistence and the value of quarters furnished an employee shall be included as part of the pay, but overtime pay shall not be taken into account.

Sec. 13. That in the determination of the employee's monthly wage-earning capacity after the beginning of partial disability, the value of housing, board, lodging, and other advantages which are received from his employer as a part of his remuneration and which can be estimated in money shall be taken into account.

Sec. 14. That in cases of death or of permanent total or permanent partial disability, if the monthly payment to the beneficiary is less than $5 a month, or if the beneficiary is or is about to become a nonresident of the United States, or if the commission determines that it is for the best interests of the beneficiary, the liability of the United States for compensation to such beneficiary may be discharged by the payment of a lump sum equal to the present value of all future payments of compensation computed at four per centum true discount compounded annually. The probability of the beneficiary's death before the expiration of the period during which he is entitled to compensation shall be determined according to the American Experience Table of Mortality; but in case of compensation to the widow or widower of the deceased employee, such lump sum shall not exceed sixty months' compensation. The probability of the happening of any other contingency affecting the amount or duration of the compensation shall be disregarded.

Sec. 15. That every employee injured in the performance of his duty, or some one on his behalf, shall, within forty-eight hours after the injury, give written notice thereof to the immediate superior of the employee. Such notice shall be given by delivering it personally or by depositing it properly stamped and addressed in the mail.

Sec. 16. That the notice shall state the name and address of the employee, the year, month, day, and hour when and the particular locality where the injury occurred, and the cause and nature of the injury, and shall be signed by and contain the address of the person giving the notice.

Sec. 17. That unless notice is given within the time specified or unless the immediate superior has actual knowledge of the injury, no compensation shall be allowed, but for any reasonable cause shown the commission may allow compensation if the notice is filed within one year after the injury.

Sec. 18. That no compensation under this act shall be allowed to any person, except as provided in section thirty-eight unless he or some one on his behalf shall, within the time specified in section twenty, make a written claim therefor. Such claim shall be made by delivering it at the office of the commission or to any commissioner or to any person whom the commission may by regulation designate, or by depositing it in the mail properly stamped and addressed to the commission or to any person whom the commission may by regulation designate.

SEC. 19. That every claim shall be made on forms to be furnished by the commission and shall contain all the information required by the commission. Each claim shall be sworm to by the person entitled to compensation or by the person acting on his behalf, and, except in case of death, shall be accompanied by a certificate of the employee's physician stating the nature of the injury and the nature and probable extent of the disability. For any reasonable cause shown the commission may waive the provisions of this section.

SEC. 20. That all original claims for compensation for disability shall be made within sixty days after the injury. All original claims for compensation for death shall be made within one year after the death. For any reasonable cause shown the commission may allow original claims for compensation for disability to be made at any time within one year.

SEC. 21. That after the injury the employee shall, as frequently and at such times and places as may be reasonably required, submit himself to examination by a medical officer of the United States or by a duly qualified physician designated or approved by the commission. The employee may have a duly qualified physician designated and paid by him present to participate in such examination. For all examinations after the first the employee shall, in the discretion of the commission, be paid his reasonable traveling and other expenses and loss of wages incurred in order to submit to such examination. If the employee refuses to submit himself for or in any way obstructs any examination, his right to claim compensation under this act shall be suspended until such refusal or obstruction ceases. No compensation shall be payable while such refusal or obstruction continues, and the period of such refusal or obstruction shall be deducted from the period for which compensation is payble to him.

SEC. 22. That in case of any disagreement between the physician making an examination on the part of the United States and the employee's physician the commission shall appoint a third physician, duly qualified, who shall make an examination.

SEC. 23. That fees for examinations made on the part of the United States under sections twenty-one and twenty-two by physicians who are not already in the service of the United States shall be fixed by the commission. Such fees, and any sum payable to the employee under section twenty-one, shall be paid out of the appropriation for the work of the commission.

SEC. 24. That immediately after an injury to an employee resulting in his death or in his probable disability, his immediate superior shall make a report to the commission containing such information as the commission may require, and shall thereafter make such supplementary reports as the commission may require.

SEC. 25. That any assignment of a claim for compensation under this act shall be void and all compensation and claims therefor shall be exempt from all claims of creditors.

SEC. 26. If an injury or death for which compensation is payable under this act is caused under circumstances creating a legal liability upon some person other than the United States to pay damages therefor, the commission may require the beneficiary to assign to the United States any right of action he may have to enforce such liability of such other person or any right which he may have to share in any money or other property received in satisfaction of such liability of such other person, or the commission may require said beneficiary to prosecute said action in his own name.

If the beneficiary shall refuse to make such assignment or to prosecute said action in his own name when required by the commission, he shall not be entitled to any compensation under this act.

The cause of action when assigned to the United States may be prosecuted or compromised by the commission, and if the commission realizes upon such cause of action. it shall apply the money or other property so received in the following manner: After deducting the amount of any compensation already paid to the beneficiary and the expenses of such réalization or collection, which sum shall be placed to the credit of the employees' compensation fund, the surplus, if any, shall be paid to the beneficiary and credited upon any future payments of compensation payable to him on account of the same injury.

SEC. 27. That if an injury or death for which compensation is payable under this act is caused under circumstances creating a legal liability in some person other than the United States to pay damages therefor, and a beneficiary entitled to compensation from the United States for such injury or death receives, as a result of a suit brought by him or on his behalf, or as a result of a settlement made by him or on his behalf, any money or other property in satisfcation of the liability of such other person, such beneficiary shall, after deducting the costs of suit and a reasonable attorney's fee, apply the money or other property so received in the following manner:

(A) If his compensation has been paid in whole or in part, he shall refund to the United States the amount of compensation which has been paid by the United States and credit any surplus upon future payments of compensation payable to him on account of the same injury. Any amount so refunded to the United States shall be placed to the credit of the employees' compensation fund.

(B) If no compensation has been paid to him by the United States, he shall credit the money or other property so received upon any compensation payable to him by the United States on account of the same injury.

SEC. 28. That a commission is hereby created, to be known as the United States Employees' Compensation Commission, and to be composed of three commissioners appointed by the President, by and with the advice and consent of the Senate, one of whom shall be designated by the President as chairman. No commissioner shall hold any other office or position under the United States. No more than two of said commissioners shall be members of the same political party. One of said commissioners shall be appointed for a term of two years, one for a term of four years, and one for a term of six years, and at the expiration of each of said terms, the commissioner then appointed shall be appointed for a period of six years. Each commissioner shall receive a salary of $4,000 a year. The principal office of said commission shall be in Washington, District of Columbia, but the said commission is authorized to perform its work at any place deemed necessary by said commission, subject to the restrictions and limitations of this act.

SEC. 28a. Upon the organization of said commission and notification to the heads of all executive departments that the commission is ready to take up the work devolved upon it by this act, all commissions and independent bureaus, by or in which payments for compensation are now provided, together with the adjustment and settlement of such claims, shall cease and determine, and such executive departments, commissions, and independent bureaus shall transfer all pending claims to said commission to be administered by it. The said commission may obtain, in all cases, in addition to the reports provided in section twenty-four, such information and such reports from employees of the departments as may be agreed upon by the commission and the heads of the respective departments. All clerks and employees now exclusively engaged in carrying on said work in the various executive departments, commissions, and independent bureaus, shall be transferred to and become employees of the commission at their present grades and salaries.

SEC. 29. That the commission, or any commissioner by authority of the commission, shall have power to issue subpœnas for and compel the attendance of witnesses within a radius of one hundred miles to require the production of books, papers, documents, and other evidence, to administer oaths, and to examine witnesses upon any matter within the jurisdiction of the commission.

SEC. 30. That the commission shall have such assistants, clerks, and other employees as may be from time to time provided by Congress. They shall be appointed from lists of eligibles to be supplied by the Civil Service Commission, and in accordance with the civil-service law.

SEC. 31. That the commission shall submit annually to the Secretary of the Treasury estimates of the appropriations necessary for the work of the commission.

SEC. 32. That the commission is authorized to make necessary rules and regulations for the enforcement of this act, and shall decide all questions arising under this act.

SEC. 33. That the commission shall make to Congress at the beginning of each regular session a report of its work for the preceding fiscal year, including a detailed statement of appropriations and expenditures, a detailed statement showing receipts of and expenditures from the employees' compensation fund, and its recommendations for legislation.

SEC. 34. That for the fiscal year ending June thirtieth, nineteen hundred and seventeen, there is hereby authorized to be appropriated, from any money in the Treasury not otherwise appropriated, the sum of $50,000 for the work of the commission, including salaries of the commissioners and of such assistants, clerks, and other employees as the commission may deem necessary, and for traveling expenses, expenses of medical examinations under sections twenty-one and twenty-two, reasonable traveling and other expenses and loss of wages payable to employees under section twenty-one, rent and equipment of offices, purchase of books, stationery, and other supplies, printing and binding to be done at the Government Printing Office, and other necessary expenses.

SEC. 35. That there is hereby authorized to be appropriated, from any money in the Treasury not otherwise appropriated, the sum of $500,000, to be set aside as a separate fund in the Treasury, to be known as the employees' compensation fund. To this fund there shall be added such sums as Congress may from time to time appropriate for the purpose. Such fund, including all additions that may be made to it, is hereby authorized to be permanently appropriated for the payment of the compensation provided by this act, including the medical, surgical, and hospital services and supplies provided by section nine, and the transportation and burial expenses provided by sections nine and eleven. The commission shall submit annually to the Secretary of the Treasury estimates of the appropriations necessary for the maintenance of the fund.

Sec. 36. The commission, upon consideration of the claim presented by the beneficiary, and the report furnished by the immediate superior and the completion of such investigation as it may deem necessary, shall determine and make a finding of facts thereon and make an award for or against payment of the compensation provided for in this act. Compensation when awarded shall be paid from the employees' compensation fund.

Sec. 37. That if the original claim for compensation has been made within the time specified in section twenty, the commission may, at any time, on its own motion or on application, review the award, and, in accordance with the facts found on such review, may end, diminish, or increase the compensation previously awarded, or, if compensation has been refused or discontinued, award compensation.

Sec. 38. That if any compensation is paid under a mistake of law or of fact, the commission shall immediately cancel any award under which such compensation has been paid and shall recover, as far as practicable, any amount which has been so paid. Any amount so recovered shall be placed to the credit of the employees' compensation fund.

Sec. 39. That whoever makes, in any affidavit required under section four or in any claim for compensation, any statement, knowing it to be false, shall be guilty of perjury and shall be punished by a fine of not more than $2,000, or by imprisonment for not more than one year, or by both such fine and imprisonment.

Sec. 40. That wherever used in this Act—

The singular includes the plural and the masculine includes the feminine.

The term "employee" includes all civil employees of the United States and of the Panama Railroad Company.

The term "commission" shall be taken to refer to the United States Employees' Compensation Commission provided for in section twenty-eight.

The term "physician" includes surgeons.

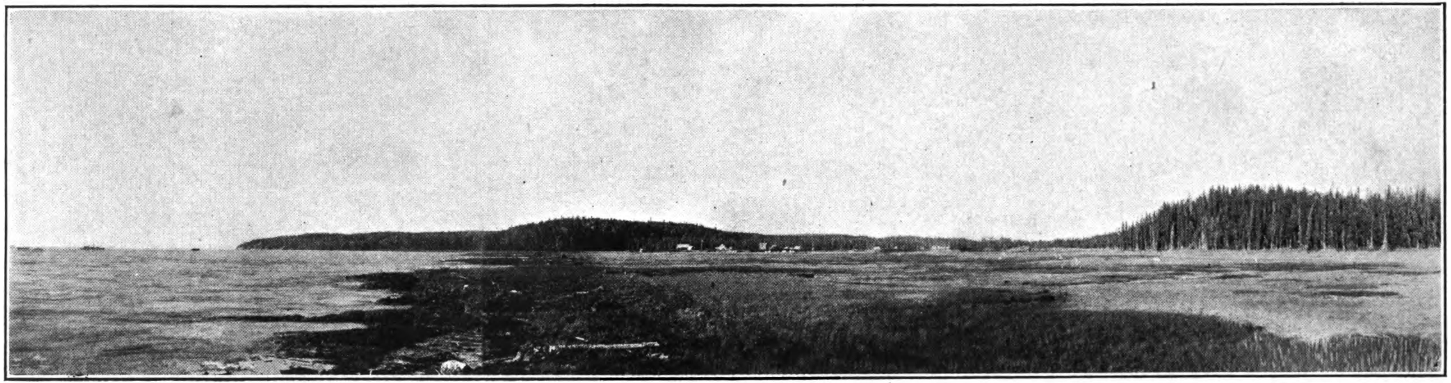
The term "monthly pay" shall be taken to refer to the monthly pay at the time of the injury.

Sec. 41. That all Acts or parts of Acts inconsistent with this Act are hereby repealed: *Provided, however*, That for injuries occurring prior to the passage of this Act compensation shall be paid under the law in force at the time of the passage of this Act: *And provided further*, That if an injury or death for which compensation is payable under this Act is caused under circumstances creating a legal liability in the Panama Railroad Company to pay damages therefor under the laws of any State, Territory, or possession of the United States or of the District of Columbia or of any foreign couutry, no compensation shall be payable until the person entitled to compensation releases to the Panama Railroad Company any right of action which he may have to enforce such liability of the Panama Railroad Company, or until he assigns to the United States any right which he may have to share in any money or other property received in satisfaction of such liability of the Panama Railroad Company.

Sec. 42. That the President may, from time to time, transfer the administration of this Act so far as employees of the Panama Canal and of the Panama Railroad Company are concerned to the governor of the Panama Canal, and so far as employees of the Alaskan Engineering Commission are concerned to the chairman of that commission, in which cases the words "commission" and "its" wherever they appear in this Act shall, so far as necessary to give effect to such transfer, be read "governor of the Panama Canal" or "chairman of the Alaskan Engineering Commission," as the case may be, and "his"; and the expenses of medical examinations under sections twenty-one and twenty-two, and the reasonable traveling and other expenses and loss of wages payable to employees under section twenty-one, shall be paid out of appropriations for the Panama Canal or for the Alaskan Engineering Commission or out of funds of the Panama Railroad, as the case may be, instead of out of the appropriation for the work of the commission.

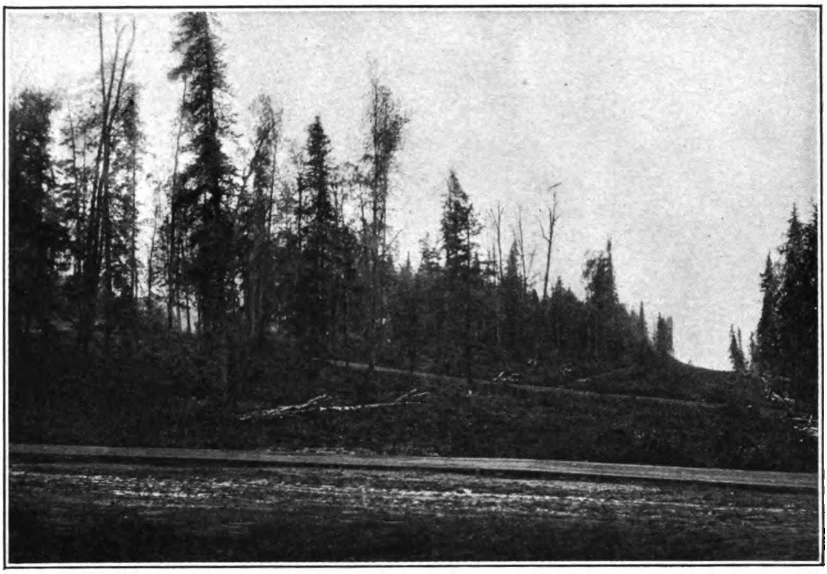
In the case of compensation to employees of the Panama Canal or of the Panama Railroad Company for temporary disability, either total or partial, the President may authorize the governor of the Panama Canal to waive, at his discretion, the making of the claim required by section eighteen. In the case of alien employees of the Panama Canal or of the Panama Railroad Company, or of any class or classes of them, the President may remove or modify the minimum limit established by section six on the monthly compensation for disability and the minimum limit established by clause (K) of section ten on the monthly pay on which death compensation is to be computed. The President may authorize the governor of the Panama Canal and the chairman of the Alaskan Engineering Commission to pay the compensation provided by this Act, including the medical, surgical, and hospital services and supplies provided by section nine and the transportation and burial expenses provided by sections nine and eleven, out of the appropriations for the Panama Canal and for the Alaskan Engineering Commission, such appropriations to be reimbursed for such payments by the transfer of funds from the employees' compensation fund.

Approved, September 7, 1916.



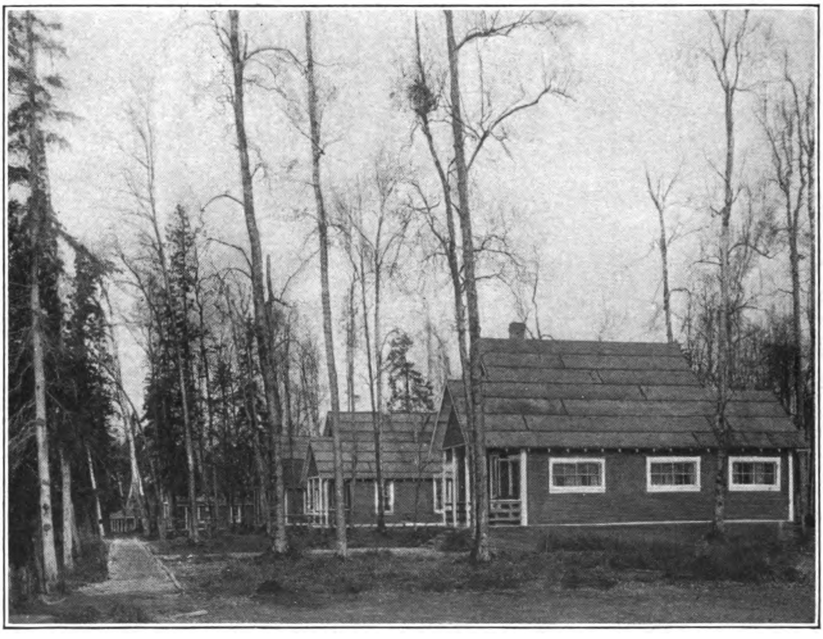
ANCHORAGE DISTRICT.

Panorama of Ship Creek (Anchorage) before the construction of the railway terminal and the new town of Anchorage.



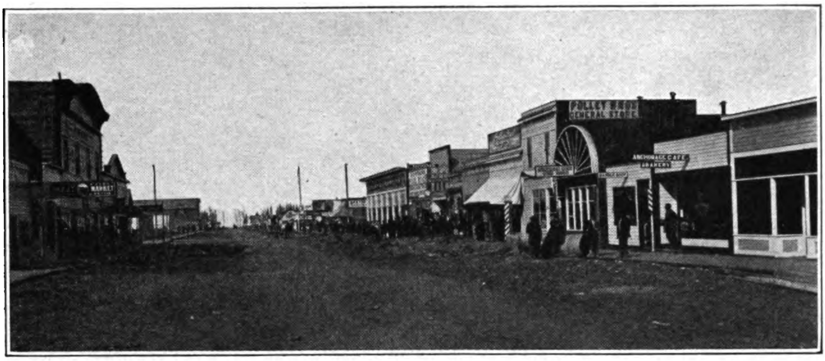
*A.* ANCHORAGE DISTRICT.

Scene in Anchorage town site before being cleared of native timber and the grading of streets.



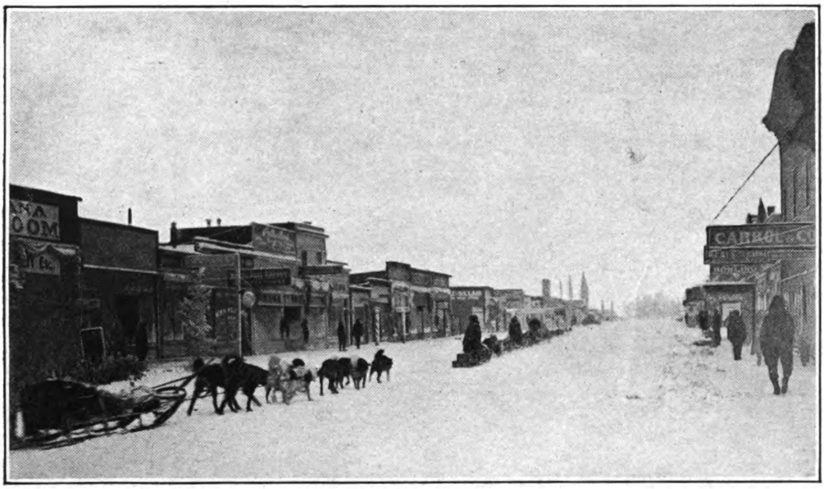
*B.* ANCHORAGE DISTRICT.

View showing type of family quarters which are rented to married employees, Anchorage, Alaska.



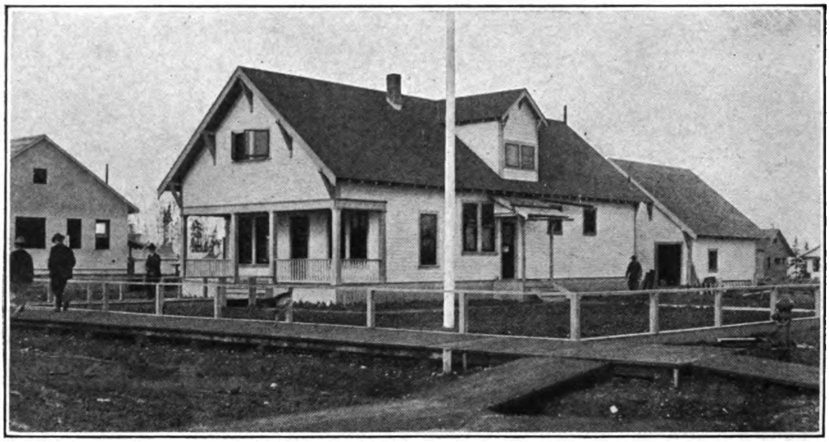
*A.* ANCHORAGE DISTRICT.

Street scene in Anchorage.



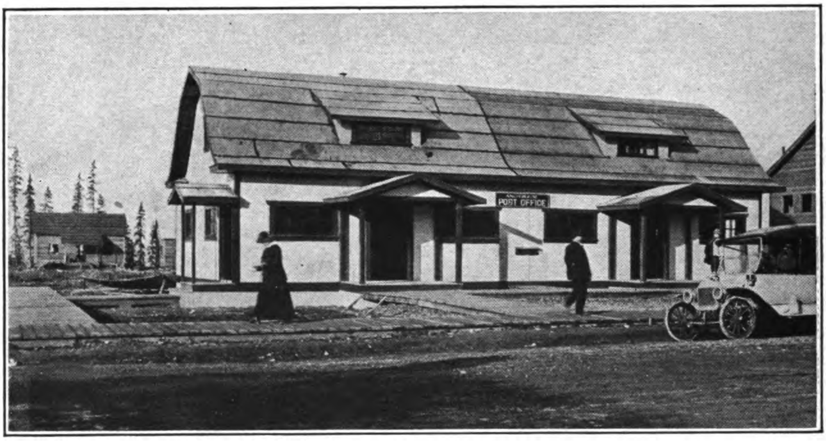
*B.* ANCHORAGE DISTRICT.

Winter street scene on main business street of Anchorage, showing dog train bringing gold dust valued at $665,000 from the Iditarod mining district. These dog trains were transported from Matanuska Junction to Anchorage over the Government railroad, en route to Seward, whence the gold was shipped to Seattle.



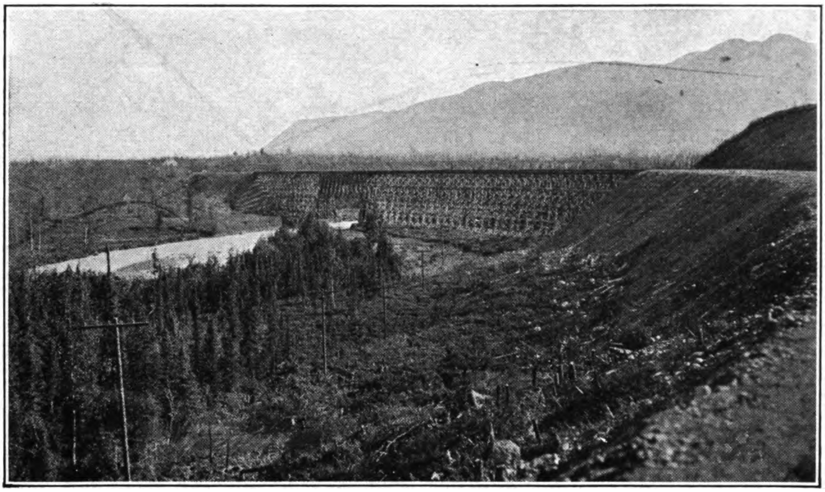
*A.* ANCHORAGE DISTRICT.

United States marshal's office and jail, Anchorage, Alaska.



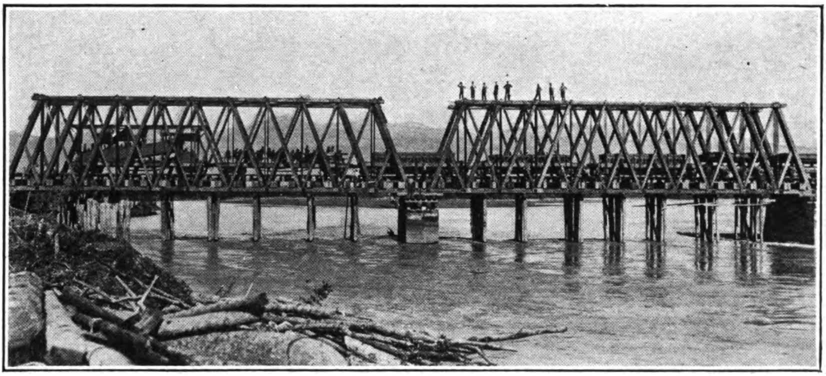
*B.* ANCHORAGE DISTRICT.

Post office at Anchorage, Alaska.



*A.* ANCHORAGE DISTRICT.

View of long railroad bridge across Eagle River, 14 miles north of Anchorage.

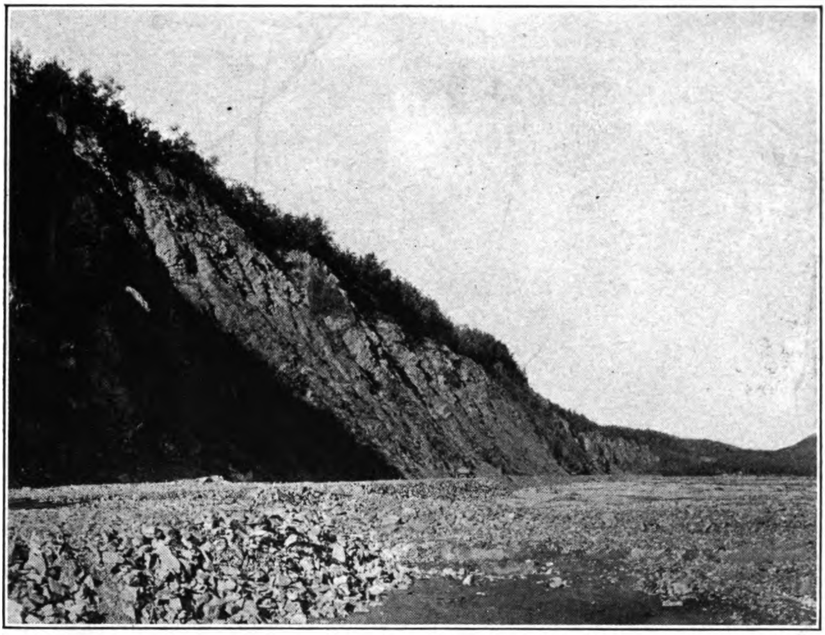


*B.* ANCHORAGE DISTRICT.

View showing bridge gang at work on the erection of the two 121-foot through truss spans across one of the channels of the Matanuska River, August, 1916.

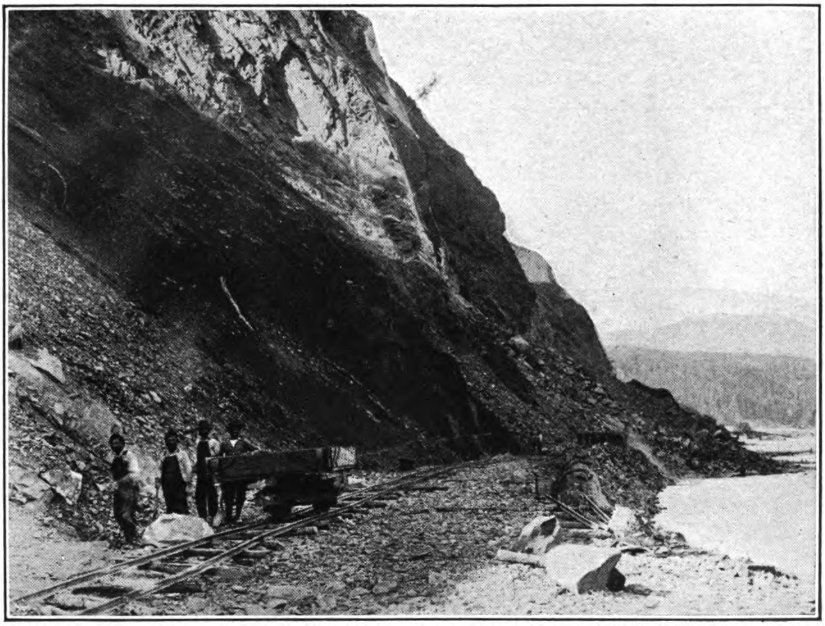
ANCHORAGE DISTRICT.

View of new commissary warehouse constructed at Anchorage to house material and supplies.



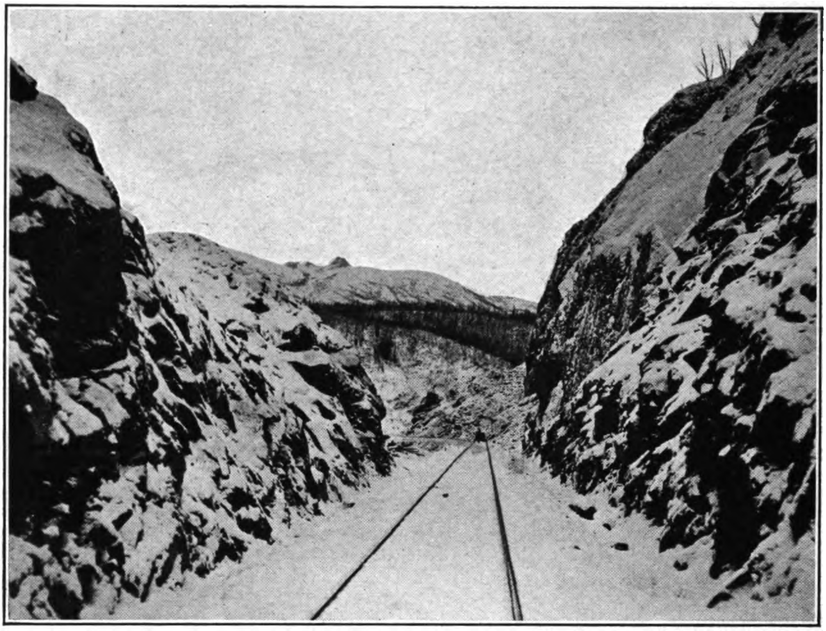
*A.* MATANUSKA DISTRICT.

Graded line on Matanuska branch near Moose Creek.



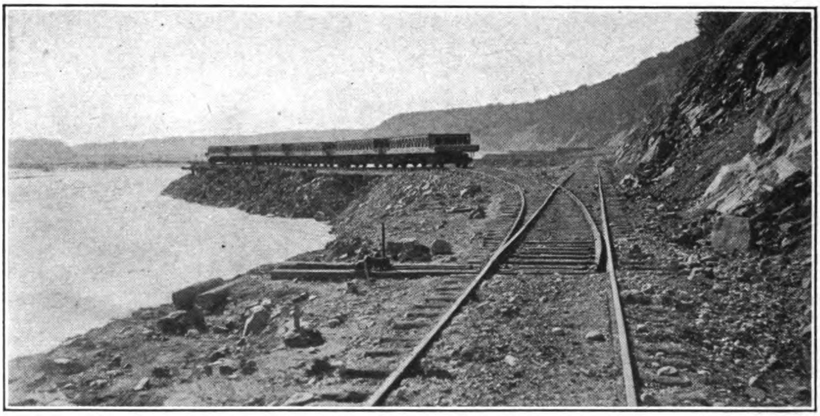
*B.* MATANUSKA DISTRICT.

Station men at work excavating rock in Moose Creek Canyon.



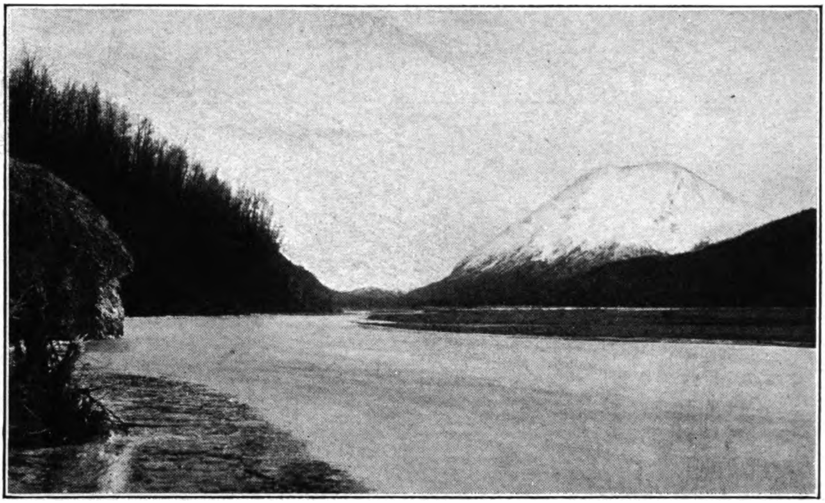
*A.* MATANUSKA DISTRICT.

Rock cut at Eska Creek Canyon.



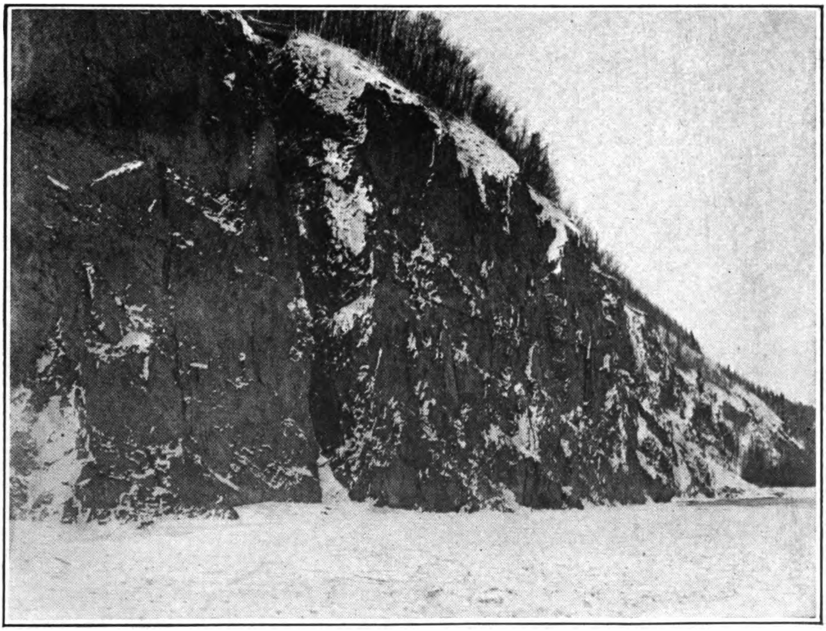
*B.* MATANUSKA DISTRICT.

View showing shear dams constructed along the Matanuska branch line to protect the embankment from the swift current of the river.



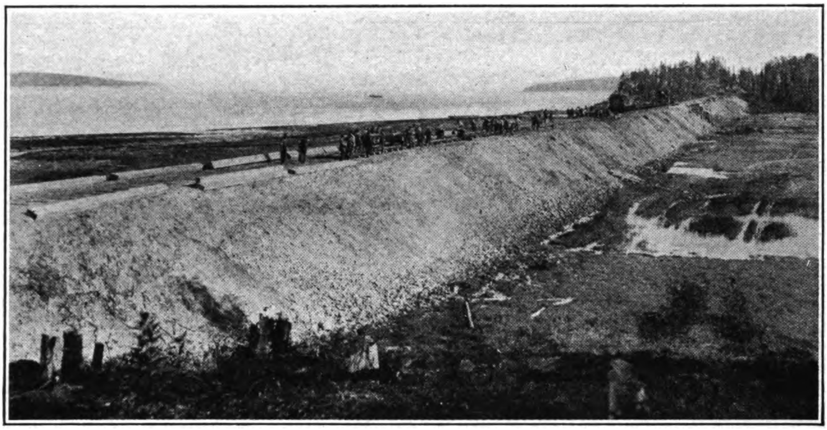
*A.* MATANUSKA DISTRICT.

View along upper Matanuska River near Chickaloon coal fields, showing Kings Mountain in the distance.



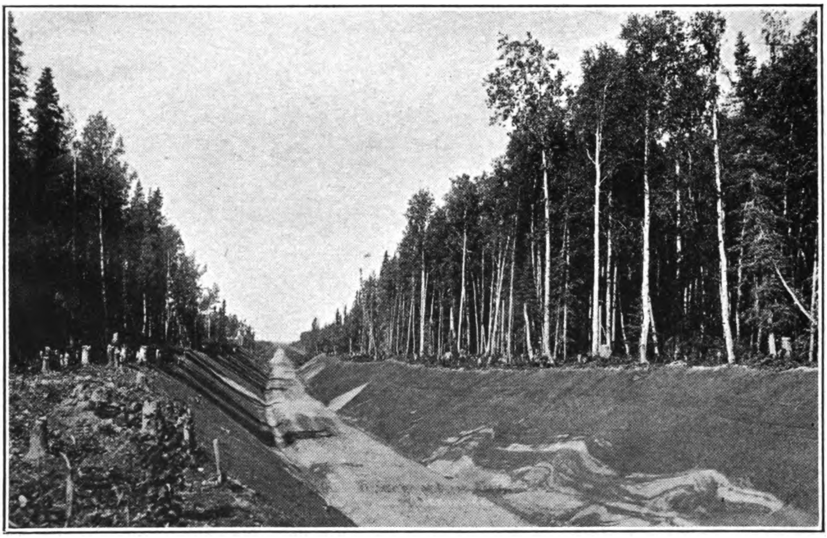
*B.* MATANUSKA DISTRICT.

View indicating heavy construction work necessary on Matanuska coal fields branch. Railway line will be benched in along these bluffs.



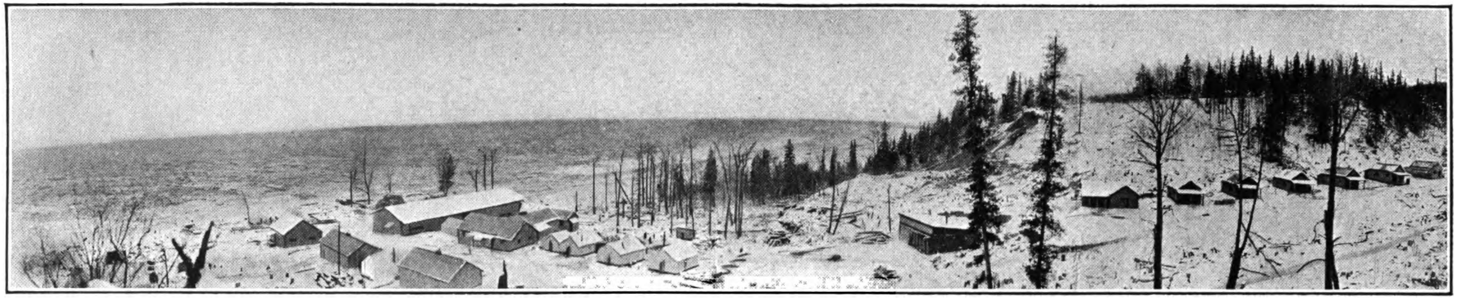
*A.* TURNAGAIN ARM DISTRICT.

View showing steel gang at work laying track south of Anchorage over a completed portion of the grade.



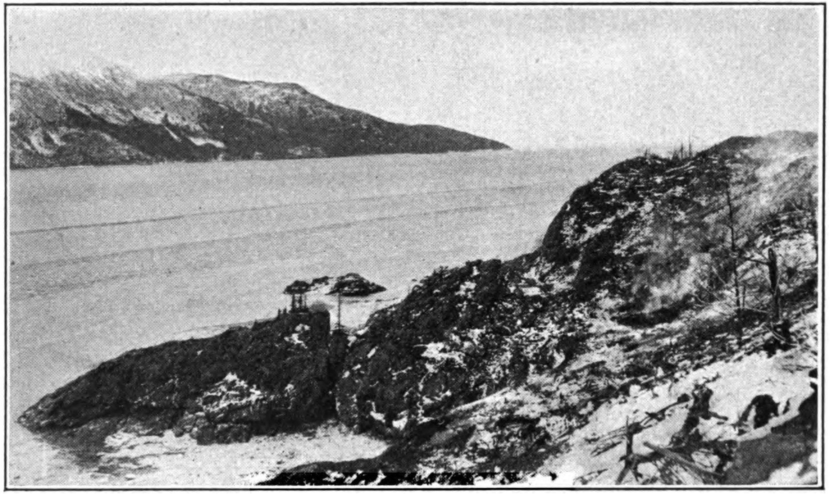
*B.* TURNAGAIN ARM DISTRICT.

View of new grade made ready for track, 4 miles south of Anchorage.



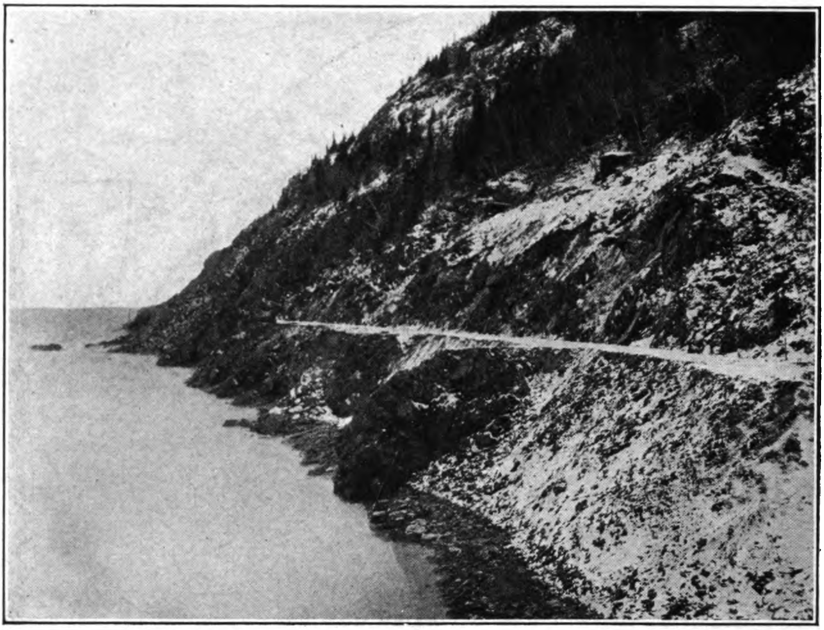
*A.* TURNAGAIN ARM DISTRICT.

General view of construction camp at Potter Creek, Mile 101, on the north shore of Turnagain Arm.



*B.* TURNAGAIN ARM DISTRICT.

Looking toward the west, down Turnagain Arm, from Mile 98, showing heavy rock work on Turnagain Arm section.

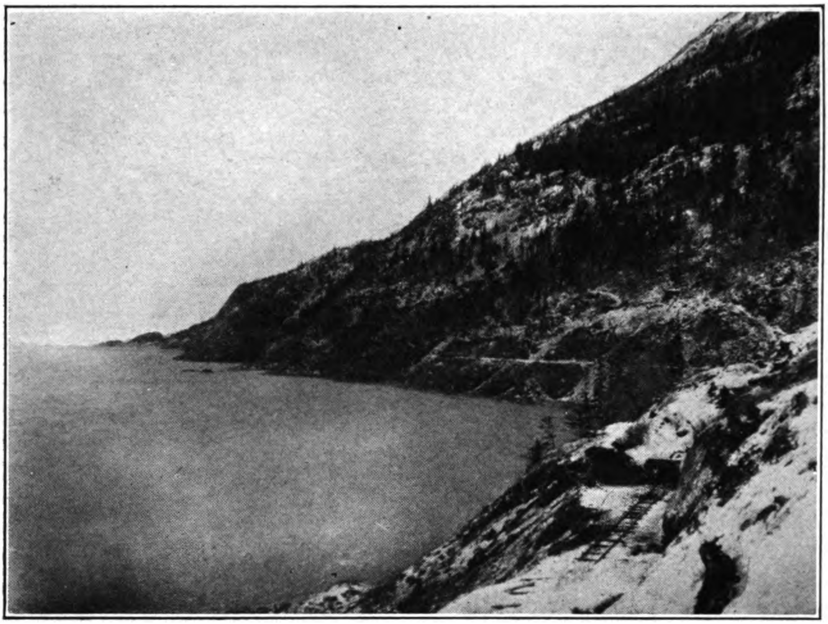


*A*. TURNAGAIN ARM DISTRICT.

Looking down Turnagain Arm from Mile 95.

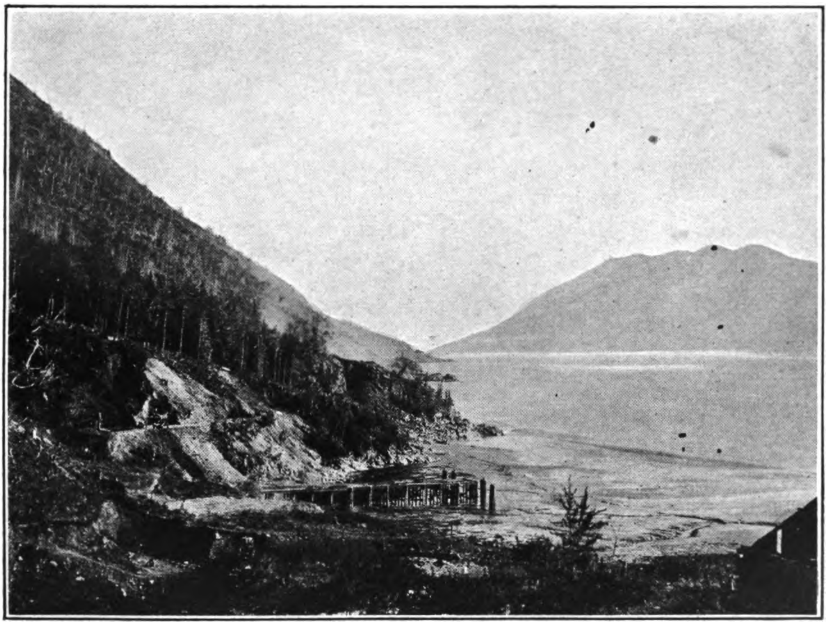
*B*. TURNAGAIN ARM DISTRICT.

View of the new trail built along the rocky cliffs along Turnagain Arm to furnish a line of communication for the construction forces at work on the new line.



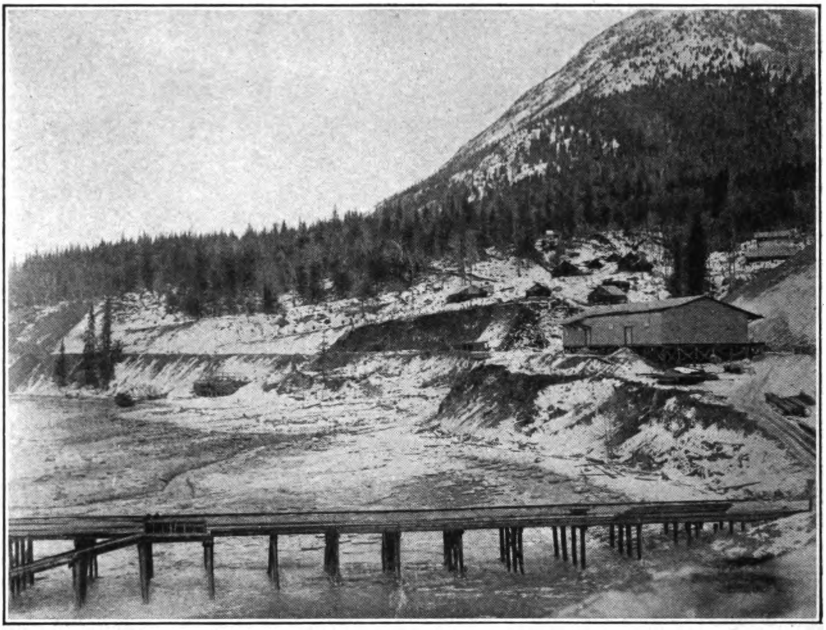
*A.* TURNAGAIN ARM DISTRICT.

Looking down Turnagain Arm below Rainbow Creek. Illustrating the difficult construction work encountered.



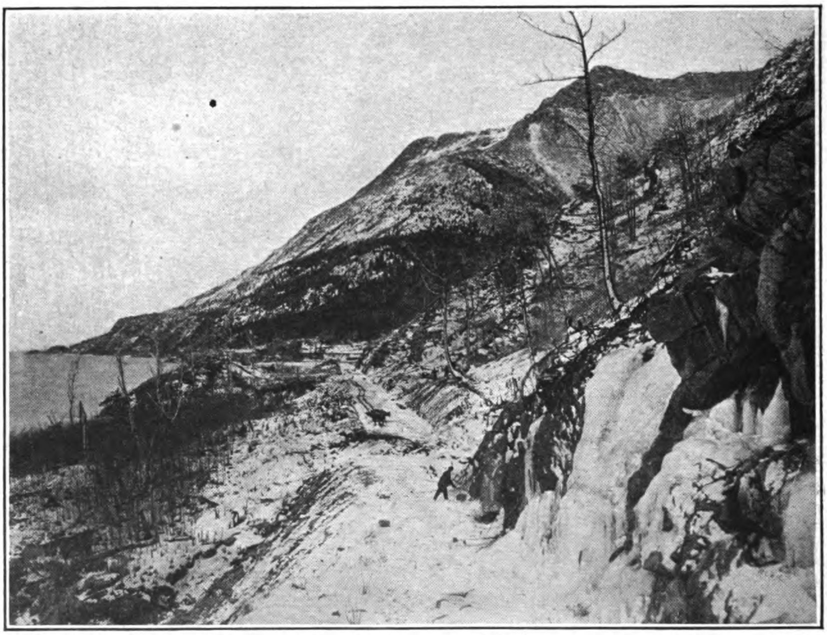
*B.* TURNAGAIN ARM DISTRICT.

Showing wharf and beginning of construction by station men at Rainbow Creek, 1916.



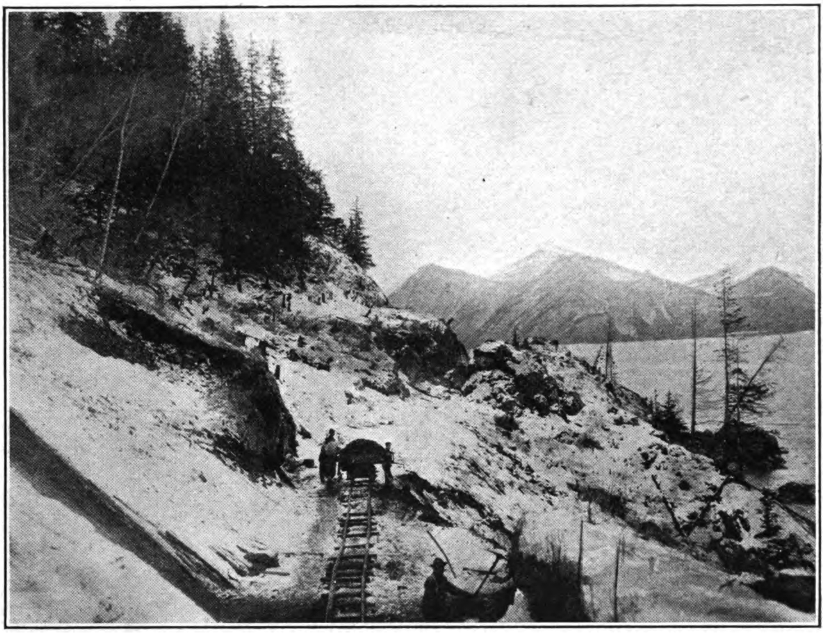
*A.* TURNAGAIN ARM DISTRICT.

A general view of the construction camp at Rainbow Creek, showing temporary dock, warehouses, and living quarters. A good deal of work had been completed at this point by the old Alaska Northern Railway.



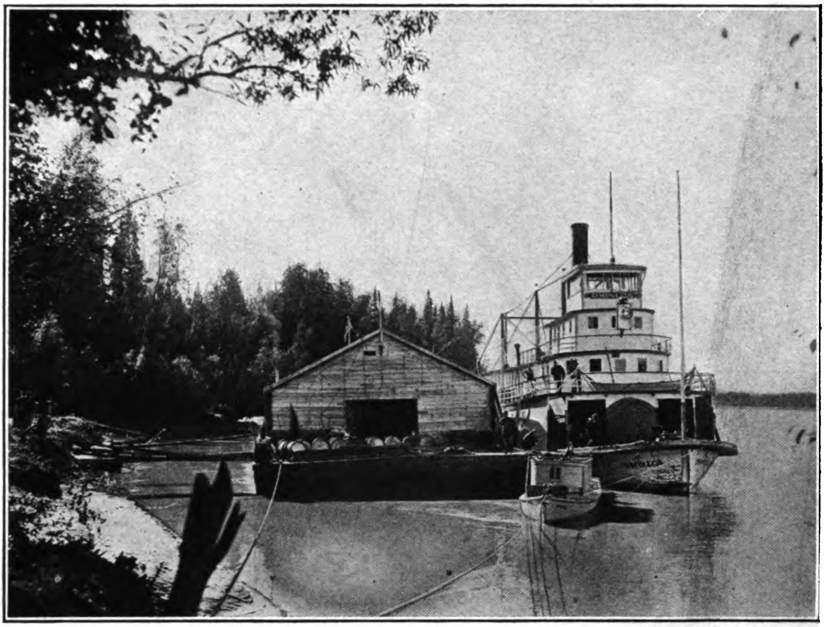
*B.* TURNAGAIN ARM DISTRICT.

View along Turnagain Arm at Mile 93.



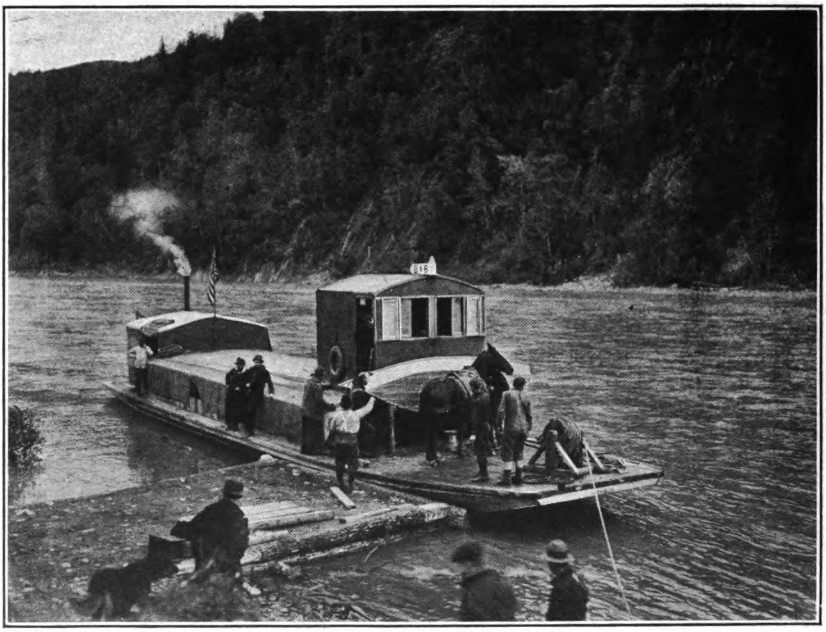
TURNAGAIN ARM DISTRICT.

A section of the abandoned work of the old Alaska Northern Railway along Turnagain Arm, showing station gangs at work widening cuts and fills for the new railroad.



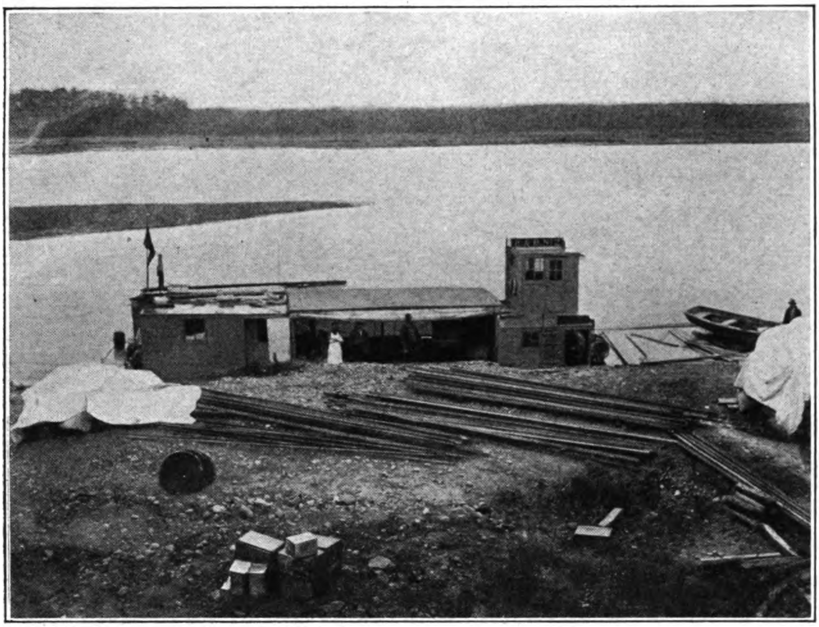
*A.* TALKEETNA DISTRICT.

View showing river steamer "Omineca" at the end of her run on the Susitna River. This boat delivers the construction materials and supplies from Anchorage to this barge, moored to the bank near the Indian village of Croto.



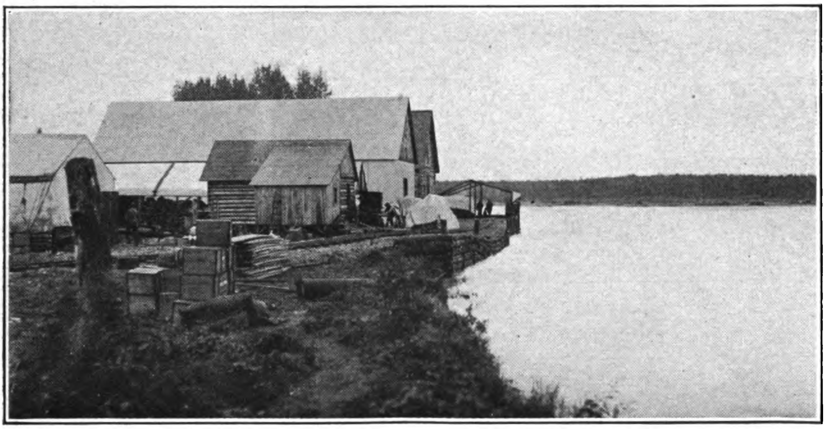
*B.* TALKEETNA DISTRICT.

View showing type of shallow-draft tunnel boats used on upper Susitna River for the transportation of employees, materials, and supplies.



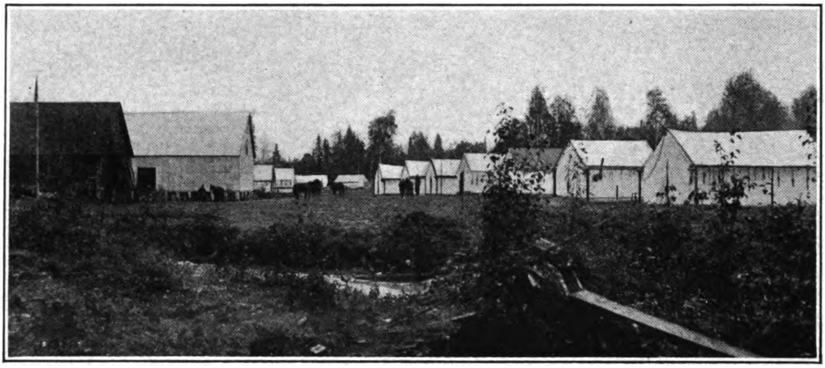
*A.* TALKEETNA DISTRICT.

View showing a shallow-draft river tunnel boat delivering station men's light rails and construction supplies at Montana Creek, Mile 207, September 14, 1915.



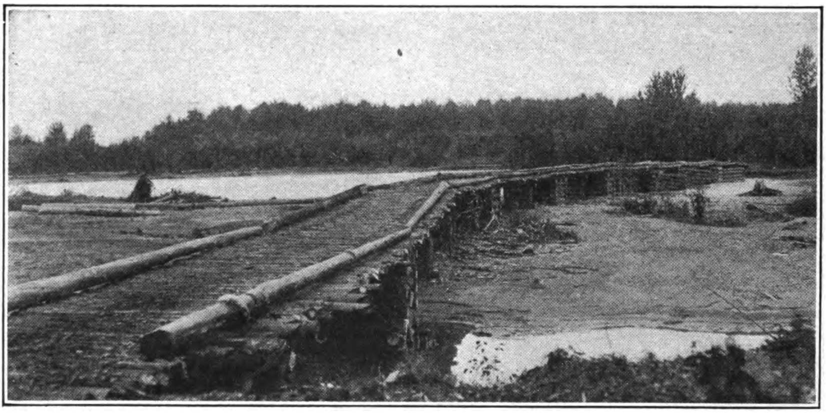
*B.* TALKEETNA DISTRICT.

Dock, warehouse, and commission buildings at Talkeetna.



*A.* TALKEETNA DISTRICT.

View showing office building, tents, and district headquarters at Talkeetna, Alaska, September, 1916.

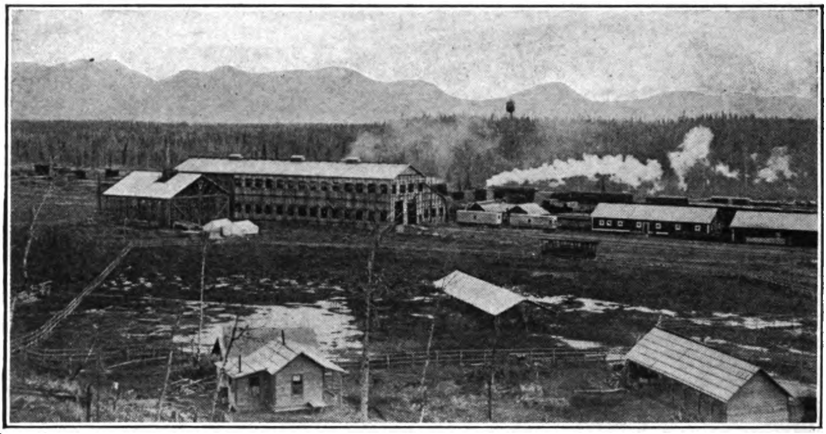


*B.* TALKEETNA DISTRICT.

View showing wagon bridge built to accommodate the delivery of materials and supplies to station gangs. This bridge crosses the Talkeetna River near Talkeetna, Mile 225.

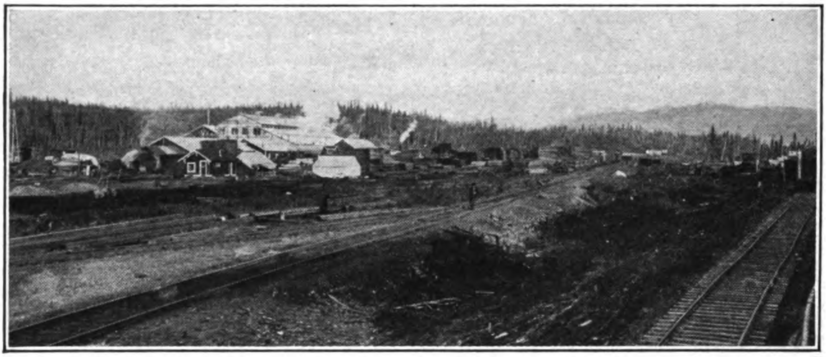
TALKEETNA DISTRICT.

Scene along the Susitna River where it will be necessary to bench in line.



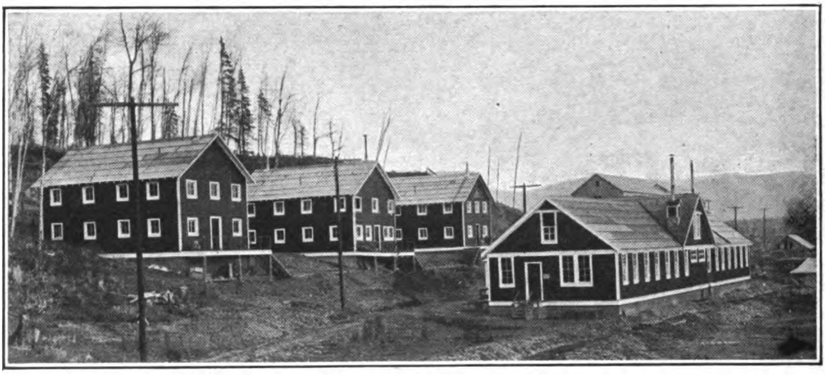
*A.* ANCHORAGE DISTRICT.

General view showing the railroad yard at Anchorage, with the power house and machine shop under construction.



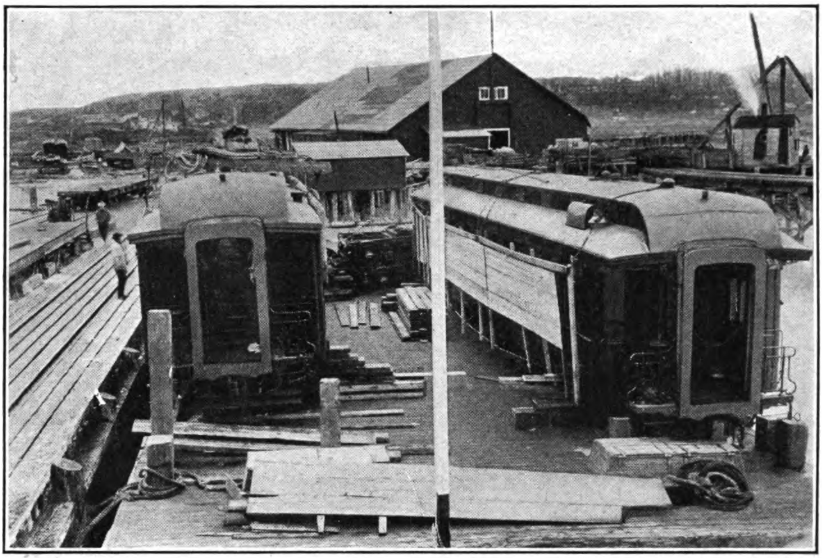
*B.* ANCHORAGE DISTRICT.

Railway terminal and material yards and buildings at Anchorage, Alaska.



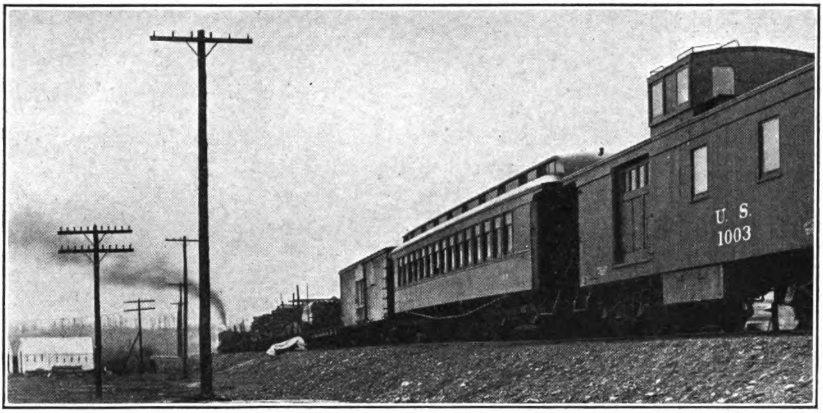
*C.* ANCHORAGE DISTRICT.

General view showing mess house and living quarters for bachelors, Anchorage, Alaska.



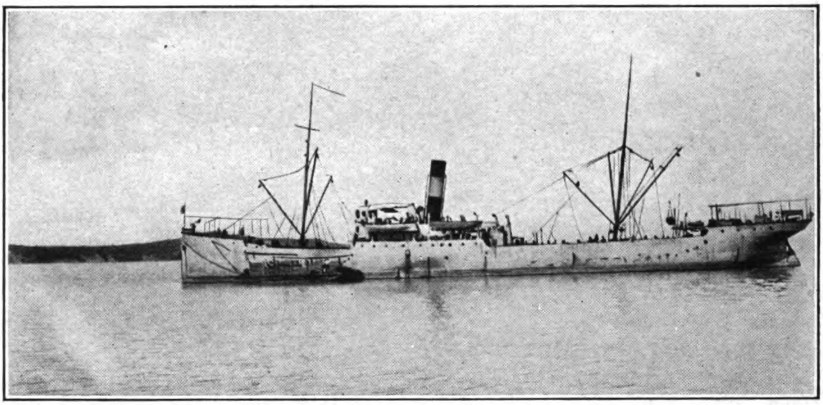
*A.* ANCHORAGE DISTRICT.

Lightering first two passenger coaches from ship to shore at Anchorage, Alaska, September 23, 1916.



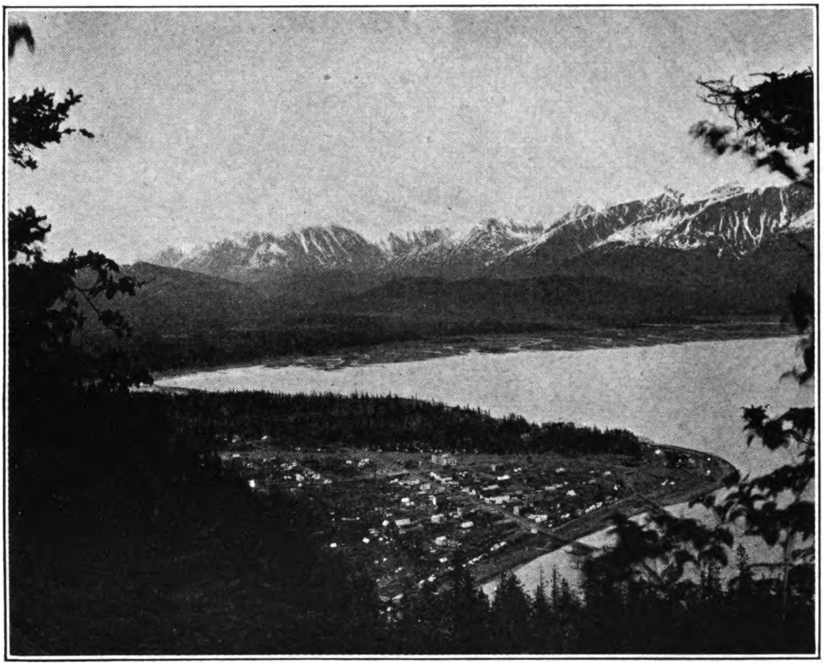
*B.* ANCHORAGE DISTRICT.

The first passenger coach taking initial trip over the Government railway from Anchorage to Matanuska Junction, Alaska, September 19, 1916.



ANCHORAGE DISTRICT.

View showing U. S. Collier "Nanshan" lying at anchor off Anchorage, Alaska, August 25, 1916.

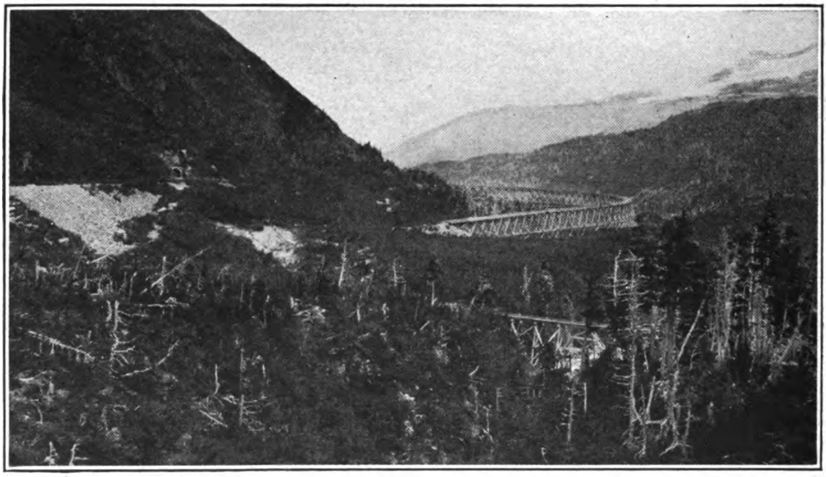


ALASKA NORTHERN RAILWAY.

Bird's-eye view of the town of Seward, Alaska.

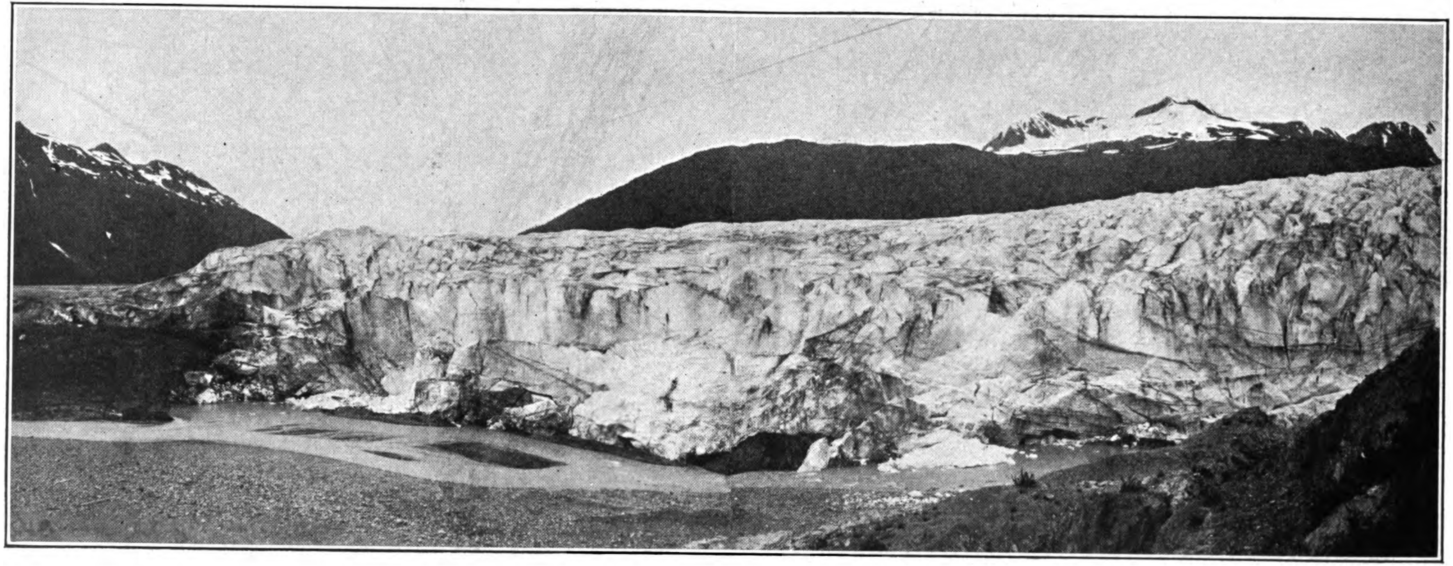
*A.* SEWARD DIVISION.

General view of Resurrection Bay, showing the terminal of the Government railway at Seward, Alaska.



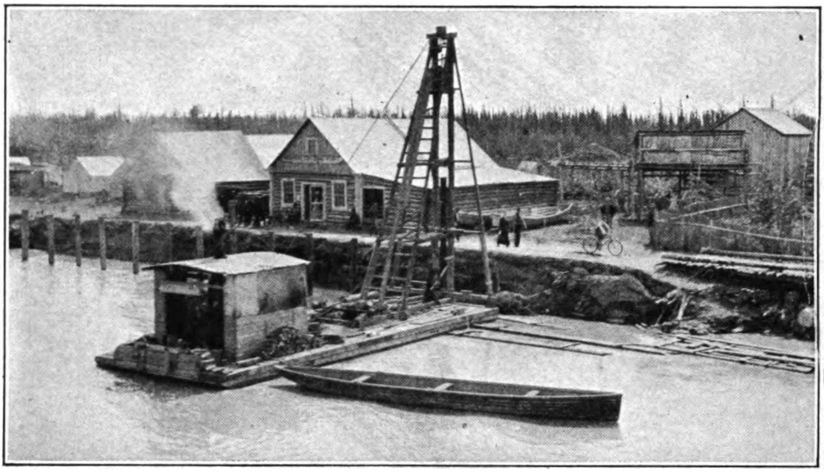
*B.* ALASKA NORTHERN RAILWAY.

View at Mile 47, showing trestle and loop.



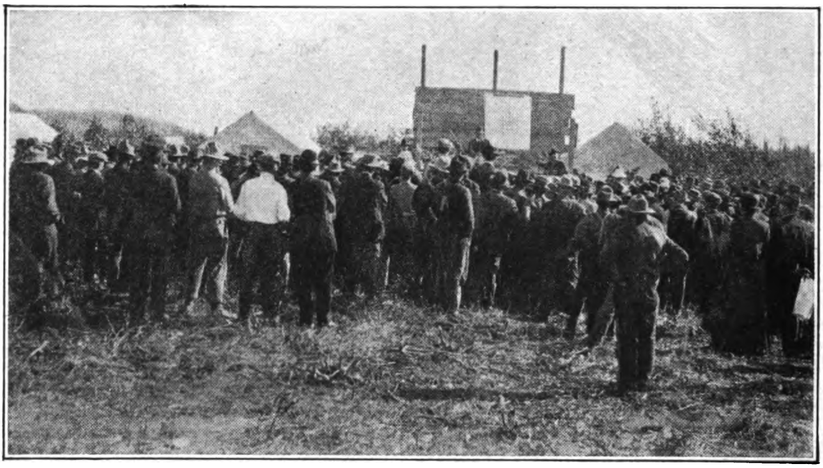
ALASKA NORTHERN RAILWAY.

Panorama of Spencer Glacier, Mile 53.



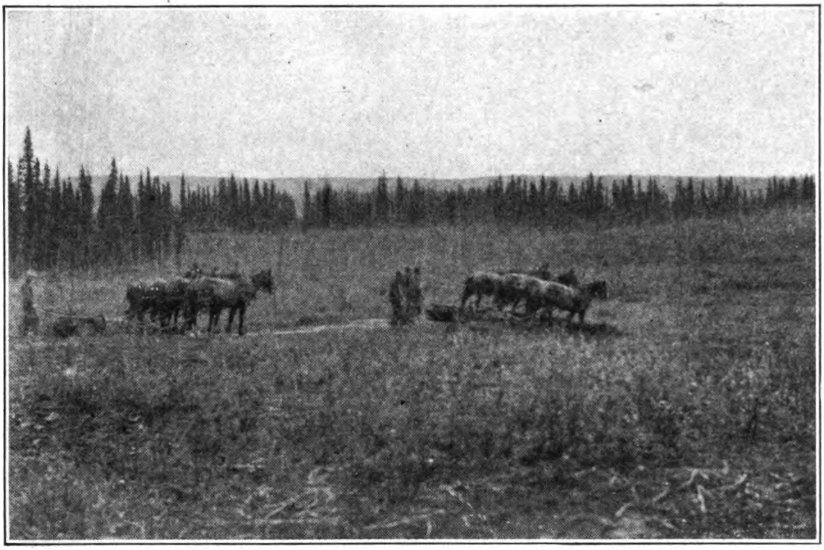
*A.* FAIRBANKS DIVISION.

The old Duke's trading post on the site of the new town of Nenana, Alaska. Driving piles for protection of Tanana River bank and as foundation for docks and warehouses.



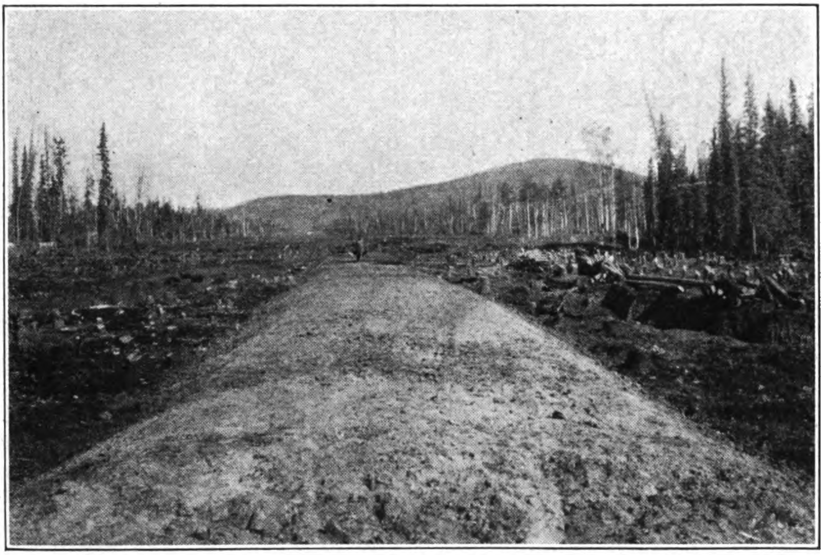
*B.* FAIRBANKS DIVISION.

Auction sale of town lots at Nenana, Alaska, August 24, 1916.



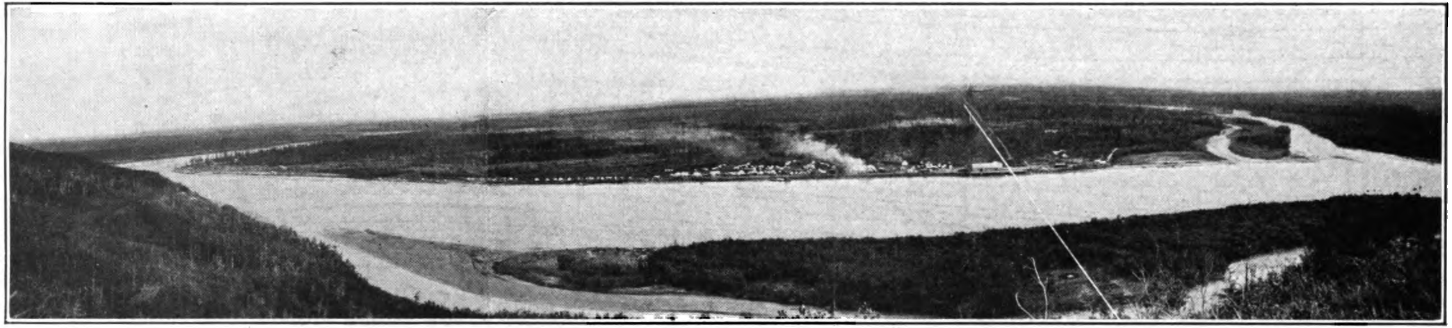
*A.* FAIRBANKS DIVISION.

Grading with Fresno scrapers along Goldstream, Mile 459, August 19, 1916.



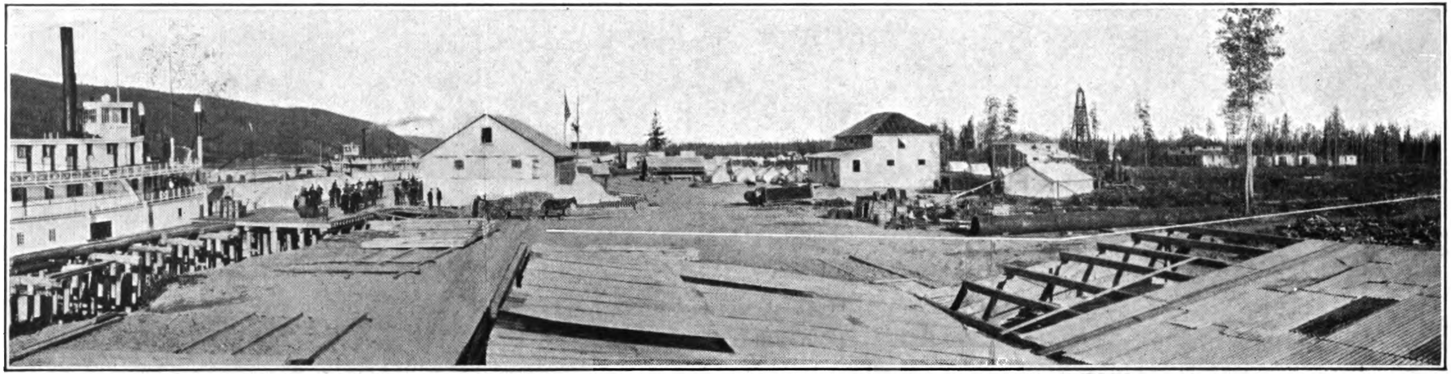
*B.* FAIRBANKS DIVISION.

Showing grade near Nenana, August, 1916.



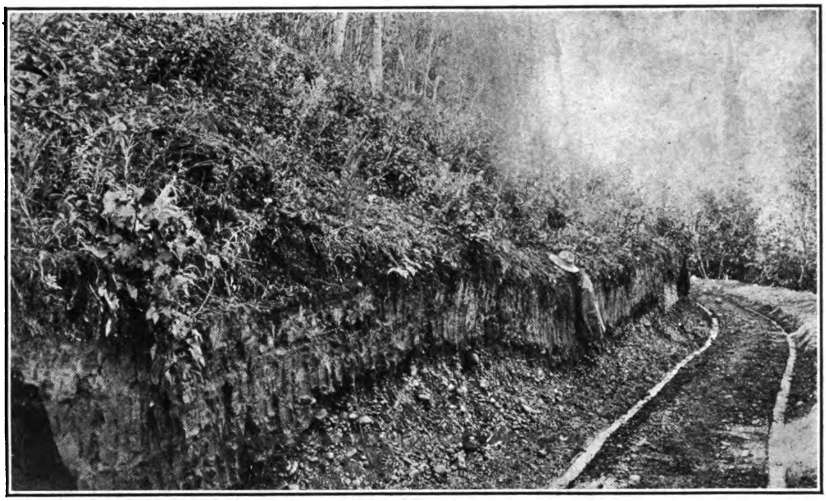
*A.* FAIRBANKS DIVISION.

Panorama showing the site of the recently established town of Nenana, the construction base for the Fairbanks Division, and the point at which the Government railroad will cross the Tanana River on a long steel bridge.



*B.* FAIRBANKS DIVISION.

View of newly constructed town of Nenana, August, 1916, showing newly constructed dock and warehouse; also showing river steamers. White line indicates permanent line of railway.

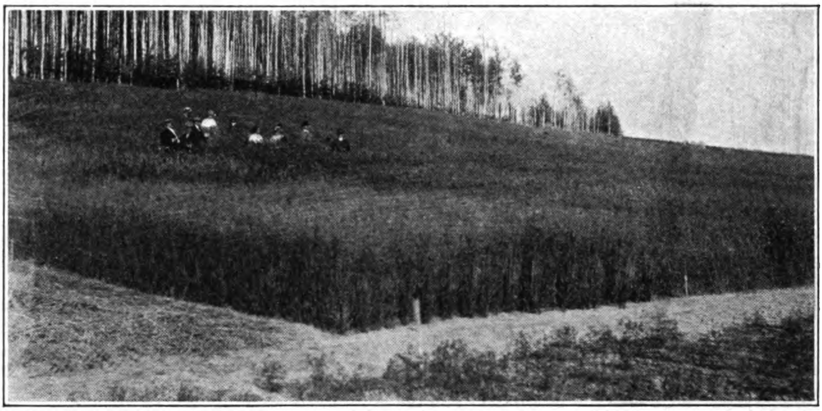


*A.* MATANUSKA DISTRICT.

Showing thickness of soil.

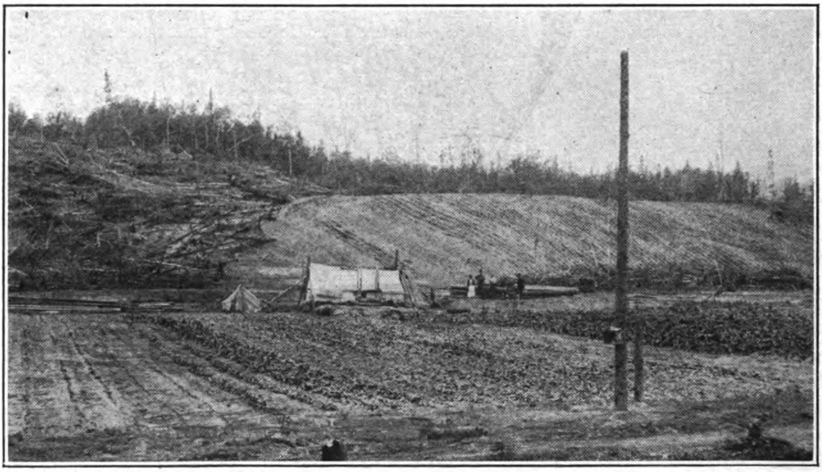
*B.* MATANUSKA DISTRICT.

Experimental growth of barley, oats, and rye on ranch near Matanuska Junction.



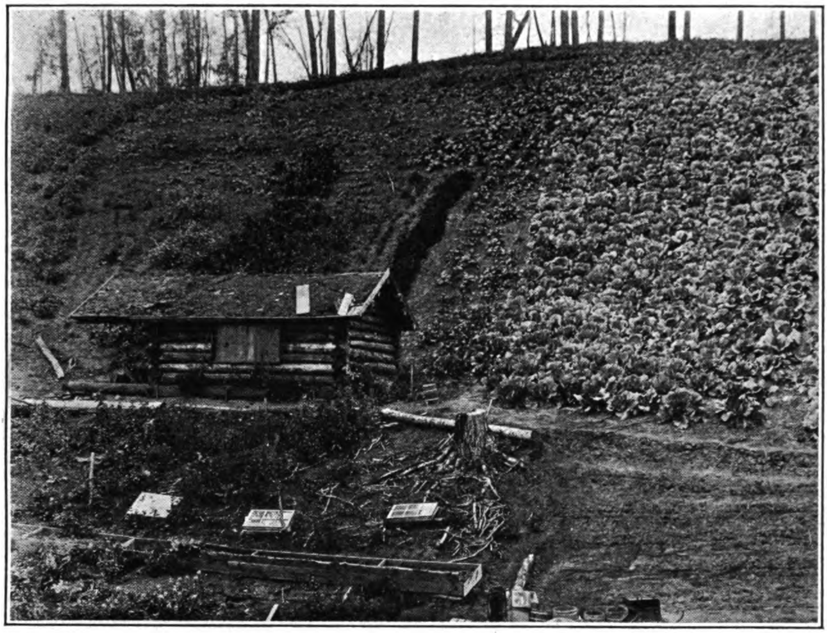
***A.* FAIRBANKS DIVISION.**

Field of oats near Fairbanks.



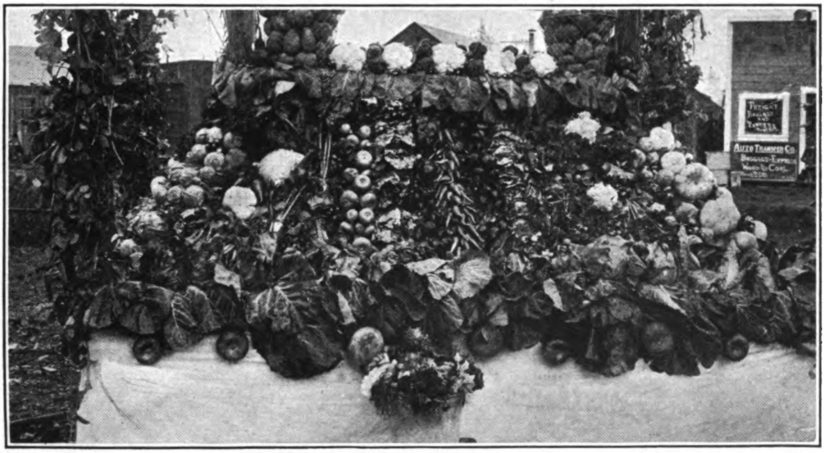
***B.* MATANUSKA DISTRICT.**

Ranch near Matanuska Junction, burned, cleared, and planted since April, 1916.



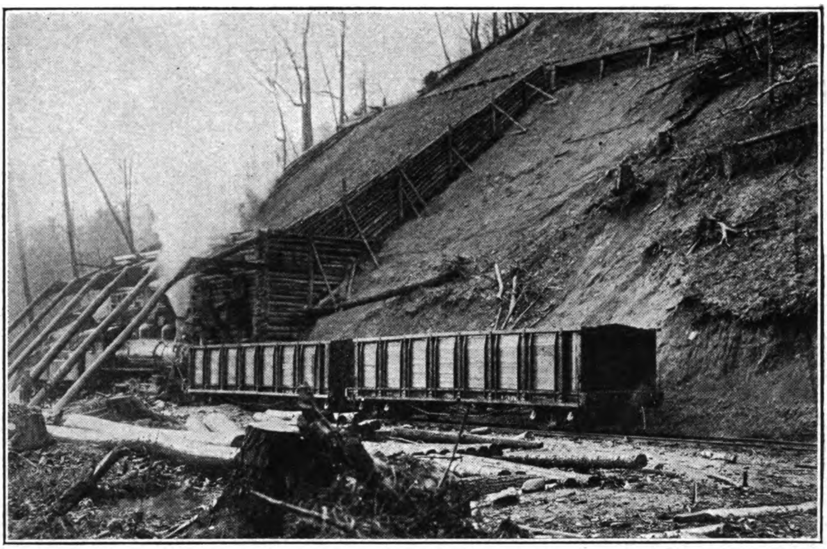
*A.* MATANUSKA DISTRICT.

View of vegetable garden near Matanuska Junction.



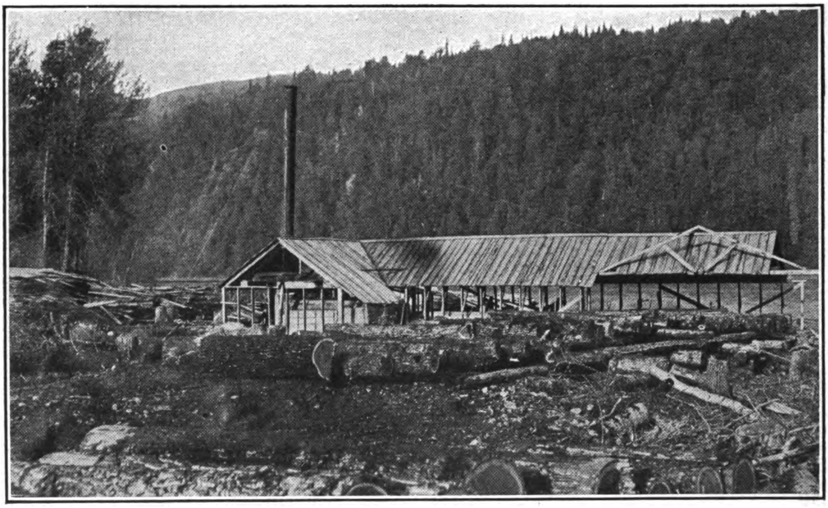
*B.* ANCHORAGE DISTRICT.

Display of agricultural products grown near Anchorage.



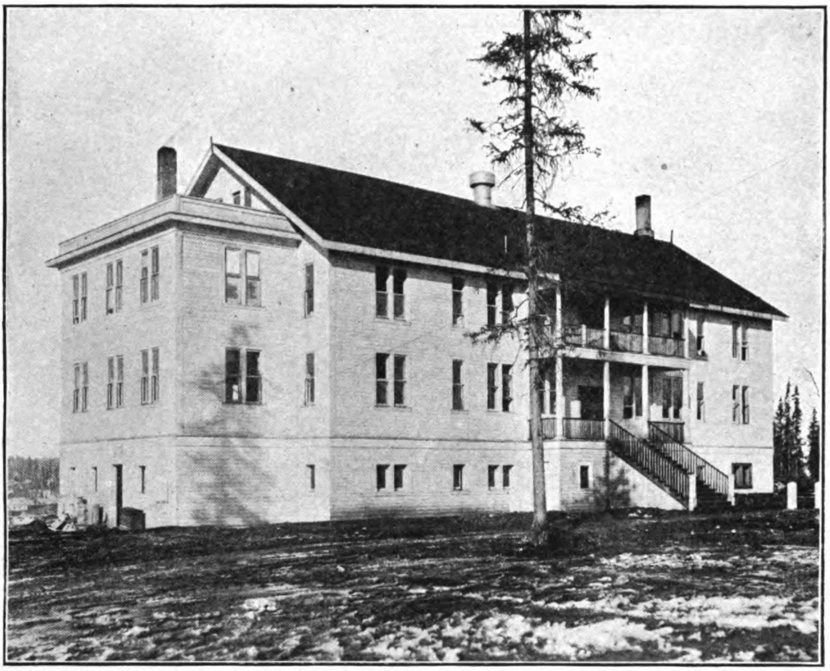
*A.* MATANUSKA DISTRICT.

View of the temporary coal bunkers at Moose Creek, Alaska, from which point coal is furnished for use on the Government railroad.

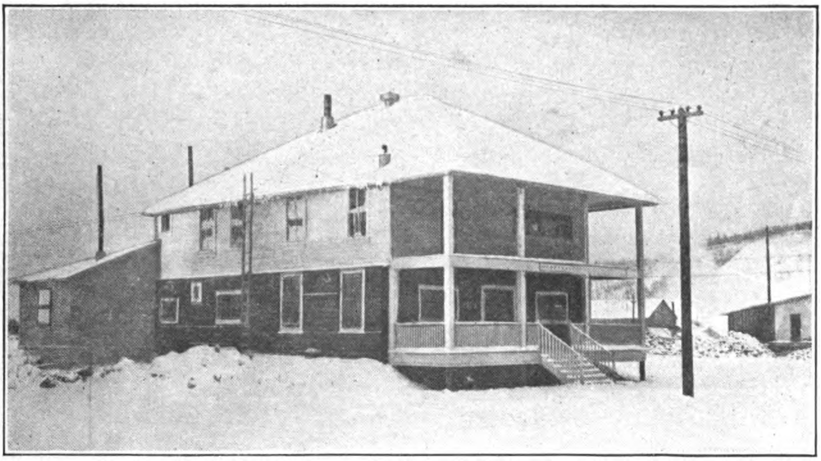


*B.* TALKEETNA DISTRICT.

View showing sawmill erected on the upper Susitna River, Mile 245.



*A.* HOSPITAL AT ANCHORAGE, ALASKA.



*B.* HOSPITAL AT NENANA, ALASKA.